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THESIS

**THE INFLUENCE OF STRATEGIC AND
ORGANIZATIONAL CULTURES ON THE REVOLUTION
IN MILITARY AFFAIRS WITHIN THE U.S. ARMY**

by

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March 2015

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THE REVOLUTION IN MILITARY AFFAIRS WITHIN THE U.S. ARMY**

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ABSTRACT

This thesis explores the influence of culture on the requirements for a Revolution in Military Affairs (RMA). It assesses how cultural factors at the strategic and the U.S. Army organizational levels may affect the changes required for realizing an RMA. Defined as a paradigmatic shift in the conduct of military affairs spurred by the confluence of organizational change with new and existing technologies and concepts of operations, the RMA has long been a controversial analytical construct. This thesis accepts the premise that the history of warfare can be interpreted as a series of RMAs. It explores the complex and powerful influence of American strategic culture and the organizational culture of the U.S. Army on the organizational, doctrinal, technology, funding and other factors vital to the realization of an RMA. The thesis compares the influence of U.S. strategic and Army organizational culture on the RMA during the interwar period (1919–1941) and the contemporary period (since the 2011 withdrawal of U.S. combat forces from Iraq) to highlight similarities and differences that U.S. military and civilian leaders can learn from to change the paradigm of military affairs in America's favor.

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LIST OF ACRONYMS AND ABBREVIATIONS

ARCIC	Army Capabilities Integration Center
BCT	Brigade Combat Team
BMC	Brigade Modernization Command
GCV	Ground Combat Vehicle
ISR	Intelligence, Surveillance and Reconnaissance
JCIDS	Joint Capabilities Integration and Development System
MANPAD	Man Portable Air Defense
NATO	North Atlantic Treaty Organization
OCAI	Organizational Culture Assessment Instrument
RDTE	Research Development, Test and Evaluation
RMA	Revolution in Military Affairs
UAV	Unmanned Aerial Vehicle

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I. INTRODUCTION

According to Dima Adamsky, a Revolution in Military Affairs (RMA) refers to a “radical military innovation, in which new organizational structures together with novel force deployment methods, usually but not always driven by new technologies, change the conduct of warfare.”¹ Adamsky explains that the realization of an RMA requires an innovation in which technology (new or existing) converges with change in a military’s organizational structure, concept of war, and vision of future conflict.² This type of change is major. Theo Farrell and Terry Terriff define it as “change in the goals, actual strategies, and/or structure of a military organization.”³ Moreover, such a change is heavily dependent on strategic and organizational culture. In the 1990s, Theo Farrell and Terry Terriff identified culture as a factor of change in the military and defined “cultural norms” as “intersubjective beliefs about the social and natural world that define actors, their situations, and the possibilities of action.”⁴

Using Adamsky’s model for realizing an RMA, this thesis investigates how strategic and organizational cultures influence the change required for a revolution in military affairs using two cases: the U.S. Army in the interwar years (1918–1941), and the U.S. Army in the contemporary period since the 2011 end of the U.S. military combat role in Iraq to the present, a period marked by the Afghanistan drawdown. The goal of this investigation is to identify and analyze parallel cultural and organizational factors in the interwar and contemporary periods so that policy makers and defense strategists can more effectively manage change in the military, and foster an RMA.

1 Dima Adamsky, *The Culture of Military Innovation: The Impact of Cultural Factors on the Revolution in Military Affairs in Russia, the U.S. and Israel* (Redwood, CA: Stanford University Press, 2010), 1.

2 Adamsky, *The Culture of Military Innovation*, 1.

3 Theo Farrell, “Innovation in Military Organizations Without Enemies,” International Studies Association Annual Convention, April 16–20, 1996, in *The Sources of Military Change: Culture Politics and Technology*, ed. Theo Farrell and Terry Terriff (Boulder, CO: Lynne Rienner Publishers, 2002), 5.

4 Theo Farrell and Terry Terriff, “The Sources of Military Change,” in *The Sources of Military Change: Culture Politics and Technology*, ed. Theo Farrell and Terry Terriff (Boulder CO: Lynne Rienner Publishers, 2002), 7.

These two cases are chosen for comparative analysis because of their similarity. Emerging military technologies—including improvements in drones, robotics, and lasers spurred by the Iraq and Afghanistan wars—and innovation in force employment methods [such as Unmanned Aerial Vehicle (UAV) platoons] make the contemporary period analogous to the interwar period, which saw a comparable spate of emerging military technologies in the tank, the airplane, and the radio, and the development of combined arms formations.

A. RESEARCH INQUIRY

As noted above, the goal of this thesis is to identify and analyze the cultural and organizational obstacles to constructive change to help policy makers and defense strategists manage the process. To this end, the thesis answers the following research questions in its investigation:

(a). How did culture at the strategic and U.S. Army organizational level influence the changes required for a Revolution in Military Affairs in the interwar period?

(b). How does culture at the strategic and U.S. Army organizational level influence the changes required for a Revolution in Military Affairs in the contemporary period—since the 2011 withdrawal of U.S. combat forces from Iraq to the present?

(c). What are the cultural parallels and developments at the strategic and U.S. Army organizational levels between the interwar and contemporary periods, and how can knowledge of these factors assist policy makers and defense strategists in their efforts to foster change supportive of an RMA?

B. RESEARCH CHALLENGES

Why is it important to conduct a comparative study of the U.S. strategic culture and the U.S. Army's organizational culture during the interwar years and the present post-Iraq war period? This study is significant because it seeks to sensitize policy makers and defense strategists to established cultural factors that can hamstring the process of managing organizational innovation, or the realization of an RMA. The technology innovation component required in this model for an RMA is obviously present. This

thesis highlights the cultural and organizational factors that can retard and hamper the military change component, so today's policy makers and defense strategists can manage them to the benefit of realizing an RMA.

The English historian C.V. Wedgwood observed that “history is lived forward, but it is written in retrospect. We know the end before we consider the beginning and we can never wholly recapture what it was like to know the beginning only.”⁵ The impossibility of knowing the future (as the beginning of history) with certainty does not dampen the thirst for knowledge about it. Analysts use tools such as comparative historical inquiry to help capture some sense of the beginning of history through the extrapolation of trends in the past. The roughly parallel chronological position of the present period to the interwar years—both occurring in the second decades of two centuries, both influenced by preceding wars, and both marked by reduced defense budgets—stimulates interest. When apparent parallels between the present and specific periods in the past are discerned, it encourages the inquiring mind to search for lessons that might help shape the beginning of coming history—the future.

C. LITERATURE REVIEW

1. Strategic Culture

In 1995 Alastair Iain Johnston wrote that the literature on strategic culture had evolved over three generations.⁶ In 2010 Dima Adamsky concurred, writing that “chronologically the works about cultural impact on national security policy, which were introduced under the umbrella of ‘strategic culture,’ came in three waves.”⁷ This literature review examines works on strategic culture consistent with the trifold distinction. Reviewing the literature on strategic culture in terms of this grouping facilitates contextual understanding of its evolution.

5 C.V. Wedgwood, *William the Silent* (London: Cape, 1967), 35.

6 Alastair Iain Johnston, “Thinking about Strategic Culture,” *International Security* 19, no. 4 (1995): 36–41, <http://www.jstor.org/stable/2539119>.

7 Adamsky, *The Culture of Military Innovation*, 6.

a. *The First Generation of Literature on Strategic Culture*

Alastair Johnston writes that the first generation—which he describes as being in the early 1980s—“focused mainly on explaining why the Soviets and the Americans...thought differently about nuclear strategy.”⁸ Works by Jack Snyder (*The Soviet Strategic Culture*), Carl Jacobsen (*Strategic Power: USA/USSR*), and David Jones (*Soviet Strategic Culture*) characterized this first generation of strategic culture literature.⁹ This generation attributed a country’s strategic thinking and approach to national security and foreign relations to its history, and to currently held visceral beliefs and assumptions about its place in the international system.¹⁰ This generation held that elements of a country’s culture—its national history and its socioeconomic and political makeup—shaped its strategic choices. Colin Gray wrote before and during the periods Johnston defines as the first and second generations of literature on strategic culture. Gray wrote that prevalent national assumptions and beliefs shaped America’s Cold War view that nuclear wars were to be avoided due to their certain pyrrhic outcome.¹¹ Gray’s perspective is echoed in other scholarly works of the period such as David Yost’s 1981 assessment of France’s strategic style as one influenced by an enduring “preoccupation with considerations of Great Power status,” which relies on traditional rationales such as its “mission civilisatrice,” to support its capacity for military intervention and influence in Africa.¹²

Jack Snyder argued similarly that Soviet and American strategists were influenced by national assumptions, beliefs and history. Snyder coined the term “strategic culture,”

8 Johnston, “Thinking about Strategic Culture,” 36.

9 Jack L. Snyder, “The Soviet Strategic Culture: Implications for Nuclear Options,” RAND, accessed 28 April 2014, <http://130.154.3.14/content/dam/rand/pubs/reports/2005/R2154.pdf>;

Carl G. Jacobsen, *Strategic Power: USA/USSR* (New York: St. Martin’s Press, 1990);

David R. Jones, “Soviet Strategic Culture,” in *Strategic Power: USA/USSR*, ed. Carl G. Jacobsen (London: St. Martin’s Press, 1990).

10 Adamsky, *The Culture of Military Innovation*, 6.

11 Colin Gray, “Nuclear Strategy and National Style” in “Thinking about Strategic Culture,” Alastair Iain Johnston, *International Security* 19, no. 4 (1995): 36, <http://www.jstor.org/stable/2539119>

12 David S. Yost, “The French Way of War,” in *Nuclear Strategy And National Style Volume 2, Appendices National Strategic Style: Country Studies*, July 31, 1981, Defense Technical Information Center, accessed May 5, 2014, 59, <http://www.dtic.mil/dtic/tr/fulltext/u2/a133217.pdf>.

which he defined as “the sum total of ideas, conditioned emotional responses, and patterns of habitual behavior that members of a national strategic community have acquired through instruction or imitation and share with each other with regard to nuclear strategy.”¹³

David Jones concurred with Snyder by writing about the inputs of national strategic culture at the macro level (history, geography, and social, economic and political institutions), and a micro level (military institutions, and their relationship to civilian authorities).¹⁴

There were three issues with the first generation of literature on strategic culture. According to Johnston, it was all inclusive in terms of the inputs to strategic culture, and it did not allow for explanations of a country’s strategic choices to be anything but a result of its strategic culture. Second, Johnston argued that the literature of this generation implied that since the inputs to strategic culture were rather static, the resulting behavior was consistent. Third, Johnston maintained that the literature from this generation presented national strategic culture as a singular entity when the inputs were in fact diverse.¹⁵

To its credit, the first generation of strategic culture theorists was instrumental in drawing attention to the consideration that countries have distinct national strategic styles or ways of thinking and dealing with strategic issues. This consideration invited additional study and exploration of the field and led to the second generation of literature on strategic culture.

¹³ Jack L. Snyder, “The Soviet Strategic Culture: Implications for Nuclear Options,” accessed 28 April 2014, <http://130.154.3.14/content/dam/rand/pubs/reports/2005/R2154.pdf>.

¹⁴ Johnston, “Thinking about Strategic Culture,” 37.

¹⁵ Johnston, “Thinking about Strategic Culture,” 36–37.

b. *The Second Generation of Literature on Strategic Culture*

This generation of literature dates back to the middle of the 1980s, and is characterized by certain writings by Bradley Klein and Colin Gray.¹⁶ This generation of scholars studied the distinction between the strategic message—what national leaders say about their actions to justify them—and how they acted (national behavior) to defend national interests. Klein—one of the foremost scholars of this generation—wrote about strategic culture as a legitimizing instrument (based on historic usage) for national leaders to justify actions inconsistent with shared national beliefs and assumptions but consistent with the pursuit of national interests. Bradley Klein still considered strategic culture as a product of a nation’s history, as did theorists of the first generation.¹⁷

According to Johnston, a key criticism of this second generation of literature was its inability to consistently link strategic culture to national behavior. In other words, though leaders and the elites of a country may view strategic culture merely as a guiding tool to legitimize more realist, even hegemonic, pursuits of national interests, they cannot be counted on to consistently behave this way because they often align their actions with their national strategic culture—perhaps to appear nationally oriented.¹⁸

Colin Gray rejected Johnston’s assessment of the first and second generations of strategic culture theory. In Gray’s view, strategic culture should not be distinguished from strategic behavior, and one should not interpret all strategic behavior as influenced solely by culture—rather one should see strategic culture “as a context out there that surrounds, and gives meaning to, strategic behavior.”¹⁹ In other words, strategic culture is the national context that states use to shape their behavior based on the strategic environment and prevailing circumstances.

16 Bradley S. Klein, “Hegemony and Strategic Culture: American Power Projection and Alliance Defence Politics,” *Review of International Studies*, 14, no. 2 (1988): 136–139, <http://www.jstor.org.libproxy.nps.edu/stable/pdfplus/10.2307/20097137.pdf?acceptTC=true>.

Colin S. Gray, *Nuclear Strategy and National Style* (Lanham, MD: Hamilton Press, 1986).

17 Klein, “Hegemony and Strategic Culture,” 136–139.

18 Johnston, “Thinking about Strategic Culture,” 39–40.

19 Colin S. Gray, “The First Generation of Theory Strikes Back,” *Review of International Studies* 25, no. 1 (1999): 53–54, <http://www.jstor.org/stable/20097575>.

c. *The Third Generation of Literature on Strategic Culture*

The third generation of literature on strategic culture dates primarily during the 1990s, and it was greatly influenced by constructivist theorists of the period. Alexander Wendt, for example, argued on behalf of the liberal view that “international institutions can transform state identities and interest.”²⁰ This literature portrayed strategic culture as socially constructed, and used it to explain strategic behavior that proved inexplicable by realist international relations theory. For example, Peter J. Katzenstein argued that states and other actors in the international system construct an identity that shapes their national security policy and subsequent strategic behavior.²¹

Alastair Johnston takes an empirical approach to explaining strategic culture, as was characteristic of the third generation. He argues that strategic culture is a system synergistically supported by two groups of assumptions—higher strategic assumptions (about the international environment and war) and lower operational assumptions about the efficacy of strategic options in relation to a spectrum of national threats (low to high). Consistent with constructivist thought, Johnston argues that states’ strategic behavior is the result of their higher level strategic assumptions shaped by history; and their lower level assumptions about the best strategic options for operating in the rules-based international regime.²²

Colin Gray criticizes Johnston’s approach to strategic culture, which distinguishes strategic culture from strategic behavior for the purpose of study. Gray argues that Johnston’s definition of strategic culture is “driven by the needs of theory building rather than by the character of the subject.” In Gray’s view, this is misleading since “strategic culture is not only ‘out there,’ also it is within us; we, our institutions, and our behavior, are the context.”²³ Gray holds that strategic culture is not just the driver of a higher level

20 Alexander Wendt, “Anarchy is what States Make of it: The Social Construction of Power Politics,” *International Organization* 46, no. 2 (1992): 394, <http://www.jstor.org/stable/2706858>.

21 Peter J. Katzenstein, *The Culture of National Security: Norms and Identity in World Politics* (New York: Columbia University Press, 1996), 4.

22 Johnston, “Thinking about Strategic Culture,” 46–48.

23 Gray, “The First Generation of Theory Strikes Back,” 53–54.

of assumptions but is also the product of assumptions, and is inherent in the strategic behavior generated by such assumptions.

2. Organizational Culture

Much has been written about culture at the organizational level. Some scholars—for example, Kim S. Cameron and Robert E. Quinn—argue that while culture is considered abstract, its characteristics or symptoms are identifiable and conducive to analysis. They developed the Organizational Culture Assessment Instrument (OCAI) using a values approach to assess how an organization perceives success—a perception which drives how it plans, structures and manages itself.²⁴ Another prominent scholar in the field of organizational theory, Edgar Schein, defines organizational culture as a “pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration, which has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems.”²⁵ A review of the many works on the subject suggests that there are two major challenges: defining organizational culture with sufficient precision, and then studying organizational culture.

a. Approaches to Defining Organizational Culture

According to Edgar Schein, there are different approaches to defining or describing organizational culture evident in research on the subject. Approaches to defining or describing organizational culture include but are not limited to focusing on group behavioral trends, and group norms—encompassing customs and rituals, group values and aspirations, common skills, methods and competencies, common paradigms of thought, agreed languages, and shared meanings.²⁶

²⁴ Kim S. Cameron and Robert E Quinn, *Diagnosing and Changing Organizational Culture: Based On the Competing Values Framework* (San Francisco: Jossey-Bass, 2006), 31.

²⁵ Edgar H. Schein, *Organizational Culture and Leadership*, 3rd Edition (San Francisco, CA: Jossey Bass, 2004), 4.

²⁶ Schein, *Organizational Culture and Leadership*, 12–13.

1. Group Behavioral Trends: In what can be termed *the behavioral trend approach* scholars Michael Jones, Michael Moore, and Richard Snyder attempt to define culture in terms of how people behave and interact in an organization, and the customs and conventions they develop and follow to govern those interactions over time.²⁷

2. Group Norms: The *group norms approach*—which also includes *customs and rituals* – defines culture in terms of customs—that is, the recognized recurring behavior and activities of its members. George Homans writes that the recurring activities of groups when recognized as such constitute customs, which over time become implicitly accepted and practiced by the members of that group.²⁸

3. Group Values and Aspirations: Terrence Deal and Allan Kennedy view culture in terms of *group values and aspirations*. They describe or define culture in groups in terms of what each particular group advertises or claims that it is trying to attain, produce or influence in its field of endeavor.²⁹

4. Common Skills, Methods and Competencies: Thomas Peters and Robert Waterman define culture in terms of the mostly unwritten *common skills, methods and competencies* ingrained in how an organization or group accomplishes tasks that allow it to thrive and remain vibrant in its field. In their study of America’s best-run companies Peters and Waterman learned that some of the top performing companies at the time (their book was originally published in 1982) viewed success in innovation as a “numbers game.” This meant that the more attempts at innovation the greater the probability of success, and so these companies instituted innovation in their daily operations, and as a competency among their employees.³⁰

²⁷ Michael Owen Jones, Michael Dane Moore, and Richard Christopher Snyder, *Inside Organizations: Understanding the Human Dimension* (Newbury Park, CA: Sage, 1988).

²⁸ George C. Homans, *The Human Group* (New York: Harcourt, Brace, 1950), 28

²⁹ Terrence E. Deal, and Allan A Kennedy, *The New Corporate Cultures: Revitalizing the Workplace After Downsizing, Mergers, and Reengineering* (Massachusetts: Perseus Books, 1999).

³⁰ Thomas J. Peters, and Robert H Waterman, *In Search of Excellence: Lessons From America’s Best-run Companies* (New York: Harper & Row, 1982), 208.

5. Common Paradigm of Thought and Language: Geert Hofstede defined culture in terms of the common framework that guides the way in which the members of a group perceive, think and speak in solving the challenges of daily life. This framework is essentially a common cognitive pattern that the members of that group reinforce and teach to new members as the way to see, think and act. According to Hofstede, “every person carries within him- or herself patterns of thinking, feeling and potential acting that were learned throughout the person’s lifetime.” In Hofstede’s view, this guides a person’s actions in much the same way as a computer’s software guides its functions.³¹

6. Shared Meanings: The “shared meanings” approach defines culture in terms of the shared meanings that groups assign to phenomena based on internal and external interactions. Karl Weick writes that these shared meanings help groups make sense of phenomena. Calling it “sensemaking,” he states that it is “tested to the extreme when people encounter an event whose occurrence is so implausible that they hesitate to report it for fear they will not be believed.”³² In other words, shared meaning is how a group makes sense of things, and it is challenged when anomalies—things that have not been commonly experienced by the group—occur.

b. Approaches to Studying Culture

There are basically three social scientific approaches to studying culture which shape the collection and analysis of cultural data during research; they are integration, differentiation and fragmentation. Joanne Martin and Edgar Schein highlight this observation in their works.³³

1. Integration: According to Martin, this approach to studying culture is identifiable in terms of the following characteristics: manifestations of the culture being researched and studied all reinforce the same themes; “all members of the organization are said to share in an organization wide consensus,” and there is no ambiguity in the

³¹ Geert H. Hofstede, *Cultures and Organizations: Software of the Mind* (New York: McGraw-Hill, 1991), 4–5.

³² Karl E. Weick, *Sensemaking in Organizations* (Thousand Oaks: Sage, 1995), 1.

³³ Joanne Martin, *Cultures in Organizations: Three Perspectives* (New York: Oxford University Press, 1992), 12–13.

culture.³⁴ This approach is evident in Edgar Schein's previously cited definition of culture as a set of shared beliefs and assumptions.

2. Differentiation: Research and study of culture from a differentiation perspective asserts that manifestations of culture (for example, espoused values and practices) are inconsistent; in other words, they don't necessarily reinforce the same themes.³⁵ Martin writes that this approach holds that clear, sometimes consistent manifestations of culture can happen but only within sub-cultures where there is less ambiguity than in the broader culture.³⁶

3. Fragmentation: The fragmentation perspective emphasizes a situation or case-centric study of culture based on the premise that culture is ambiguous. According to Martin, this approach asserts that manifestations of culture can be consistent or inconsistent with cultural themes based on the individual situation.³⁷ The fragmentation approach is evident in Karl Weick's view of culture in terms of sense-making because it similarly advocates a situation- or interaction-centric approach to the study of culture.

D. U.S. SECURITY STRATEGY AND U.S. ARMY TRANSFORMATION

U.S. security strategy shapes Army transformation. The culture that drives both U.S. security strategy and Army transformation influences and shapes the changes required for an RMA. This thesis examines U.S. security strategy and Army transformation—highlighting the relationship—to observe the cultural influences that support or hamper change vital to an RMA.

1. The Interwar Period

There is a considerable amount of literature on U.S. strategy and military innovation during the interwar period. Some studies provide observations on the influence of U.S. strategic culture on the change required for an RMA. Historians

³⁴ Martin, *Cultures in Organizations*, 12.

³⁵ Martin, *Cultures in Organizations*, 12.

³⁶ Martin, *Cultures in Organizations*, 12.

³⁷ Martin, *Cultures in Organizations*, 12.

Williamson Murray and Allan Millet, David Khan, and Calvin Christman, among others, have written about the prevalent strategic thought in the United States during the interwar period. Chapter II of the thesis explores the influence of this aspect of U.S. strategic culture on the RMA.

a. Strategy

Strategy is the management of resources to realize objectives. According to Carl Builder, “a strategy is a concept for relating means to ends.”³⁸ U.S. strategy in the interwar period can be described as one in which the means to realize America’s strategic goals, particularly in the Asia-Pacific region, were for the greater part of the period outpaced by the requirements inherent in said objectives. For example, the United States defended the Philippines during the interwar period as part of its overall strategic goal of maintaining its influence and trade access in the Western Pacific. However, Congress mandated force reductions that undermined this strategic goal. According to Brian Linn, in the 1920 Defense Act Congress rejected Army Chief of Staff Peyton C. March’s plan for “a peacetime complement of 509,000 men, in which the Philippine and Hawaiian departments would each be separate tactical commands of some 22,000.”³⁹ Not only were the requisite forces for the realization of U.S. strategic aims in the Pacific denied, but Congress mandated the reduction of existing forces from “13,251 in the Philippines, and 15,368 in Hawaii in 1921 to 11,808 and 13,096 respectively in 1924.” These low force levels would not see a steady increase until the mid to late 1930s.⁴⁰ The relationship between strategic aims and means holds implications for the RMA in terms of the required factors of change that are cultivated, which include funding, manning, and innovation.

38 Carl Builder, *The Masks of War: American Military Styles in Strategy and Analysis* (Baltimore, MD: The Johns Hopkins University Press, 1989), 49.

39 Brian McAllister Linn, *Guardians of Empire: The U.S. Army and the Pacific, 1902–1940* (Chapel Hill, NC: University of North Carolina Press, 1997), 146.

40 Linn, *Guardians of Empire*, 146.

b. U.S. Army Transformation

The literature on U.S. Army transformation in the interwar period can be classified into two perspectives: some argue that U.S. defense spending reductions hamstrung innovation, and others maintain that the Army's culture was primarily responsible for hampering innovation. David Johnston contends that the poor state of Army readiness at the start of World War II was due not so much to the fiscally parsimonious character of interwar U.S. national security strategy, but rather to the Army's organizational culture, which repressed innovation in favor of traditional doctrine and concepts.⁴¹ Brian Linn argued similarly, and wrote that Army preparedness in the Pacific was challenged by "well-conceived ideas falling victim to institutional inertia...parochialism, paranoia, tunnel vision, face-saving, egotism, and accidents of timing."⁴²

In contrast, Paul Kennedy points out that U.S. defense spending was comparatively lower than that of Britain, Japan and other major powers for much of the interwar period, and that this severely limited U.S. military readiness at the start of World War II.⁴³

2. Contemporary Period since the Iraq War

Much has been written on the challenges of formulating a U.S. defense strategy in a post-Cold War strategic environment in which threats are ambiguous—compared to the singular threat-based defense planning environment of the Cold War in which (aside from conflicts in Korea and Vietnam) U.S. Army strategists focused on preparedness to fight the Soviet Union in Europe. The literature acknowledges in varying ways the influence of aspects of contemporary U.S. strategic and Army organizational culture in realizing the changes required for an RMA.

⁴¹ David E. Johnson, *Fast Tanks and Heavy Bombers: Innovation in the U.S. Army, 1917–1945* (Ithaca, NY: Cornell University Press, 1998).

⁴² Linn, *Guardians of Empire*, xiv.

⁴³ Paul M. Kennedy, *The Rise and Fall of the Great Powers: Economic Change and Military Conflict From 1500 to 2000* (New York: Random House, 1987), 331.

a. Strategy

Some experts have compared the ambiguity of the contemporary period's strategic environment to that of the interwar period—a clear contrast to the singular dominant threat environment of the Cold War. In 2014, John Peters and his co-authors wrote that “the adversaries and the missions that the Army must be prepared for are more ambiguous and diverse than at any time since the period between the World Wars.”⁴⁴ Additionally, the 2013 Army Strategic Guidance concurs that “the emerging environment presents a complex range of threats, challenges and opportunities, making it likely that U.S. forces will be called on to operate under a broad variety of conditions.”⁴⁵ The current administration's national security strategy similarly acknowledges the contemporary challenges, and emphasizes a multilateral security strategy (with the United States working to build security in close cooperation with its allies), and technological innovation to maintain America's military and economic primacy.⁴⁶

b. U.S. Army Transformation

The literature on Army transformation in the contemporary period can be classified into two schools based on the debate surrounding the realization of an RMA. These two schools are largely influenced by aspects of U.S. strategic culture such as the national cognitive style (explored in Chapter III). Norman Davis, John Arquilla, and David Ronfeldt contend that a revolution in military affairs is ongoing with an impending culmination.⁴⁷ Other RMA proponents, including Peter Singer, concur that “just as submarines, tanks, and airplanes disrupted tactics, doctrine and organizational identity in the early 20th century, so today we are struggling with deep changes wrought by the likes

⁴⁴ John Peters et al., “A Methodology For Developing Army Acquisition Strategies For An Uncertain Future,” RAND, last modified March 18, 2014, http://www.rand.org/content/dam/rand/pubs/monographs/2007/RAND_MG532.sum.pdf. 2.

⁴⁵ Headquarters Department of the Army, *Army Strategic Planning Guidance 2013*, Washington, DC: Department of the Army, 2013, http://usarmy.vo.llnwd.net/e2/rv5_downloads/info/references/army_strategic_planning_guidance.pdf.

⁴⁶ President of the United States, *National Security Strategy* (Washington, DC: The White House, May 2010) 1, <http://nssarchive.us/NSSR/2010.pdf>.

⁴⁷ Norman C. Davis, “An Information-Based Revolution in Military Affairs,” in *In Athena's Camp: Preparing for Conflict in Information Age* ed. John Arquilla and David Ronfeldt, RAND, accessed May 10, 2014, http://www.rand.org/pubs/monograph_reports/MR880.html.

of drones, cyber and lasers.”⁴⁸ RMA critics like Michael O’Hanlon and Stephen Biddle challenge the arguments and hypotheses of RMA proponents.⁴⁹ Biddle, for example, argued in 2004 that, while “change of course is inevitable...expectations of a looming revolution in military affairs are both a serious misreading of modern military history and a dangerous prescription for today’s defense policy.”⁵⁰ Other literature on the subject focuses on phenomena inherent in the RMA debate like the factors and direction of innovation. For example, James Russell argues that innovation can begin at the lower (tactical and operational) levels of the Army and progress upwards as a result of war-induced factors that drive units to adapt their doctrine, organization and equipment.⁵¹

E. METHODS AND SOURCES

The research relies on comparative historical study to analyze the U.S. strategic culture and U.S. Army organizational culture during the interwar period and the present period in order to highlight cultural and organizational factors that may hinder the future realization of an RMA. William Sewell Jr. wrote that Marc Bloch believed that “history cannot be intelligible unless it can ‘succeed in establishing explanatory relationships between phenomena.’”⁵² By comparing cultural and organizational factors of change at the strategic and army levels in the interwar and contemporary periods this thesis sheds light on the factors that can challenge or promote the successful cultivation of an RMA.

⁴⁸ Peter W. Singer, “Lessons on Defense Strategy from the Interwar Years,” *Armed Forces Journal* (August 2013), <http://www.brookings.edu/research/articles/2013/08/strategic-defense-reform-singer>.

⁴⁹ Michael E. O’Hanlon, *Technological Change and the Future of Warfare* (Washington, DC: Brookings Institution Press, 2000);

Stephen D. Biddle, *Military Power: Explaining Victory and Defeat in Modern Battle* (Princeton, NJ: Princeton University Press, 2004).

⁵⁰ Biddle, *Military Power*, ix.

⁵¹ James A. Russell, *Innovation, Transformation, and War: Counterinsurgency Operations in Anbar and Ninewa, Iraq, 2005–2007* (Stanford, CA: Stanford Security Studies, 2011).

⁵² Marc Bloch, *The Historian’s Craft*, in “Marc Bloch And The Logic Of Comparative History,” William H. Sewell Jr., *History and Theory*, 6, no. 2 (1967): 208. JSTOR (2504361).

F. THESIS ORGANIZATION

This introductory chapter has discussed the nature of the research inquiry, and identified the definitions, concepts and frameworks used in the ensuing chapters. The rest of the thesis is organized as follows: Chapter II considers how the U.S. strategic culture and U.S. Army organizational culture of the interwar years affected the cultivation of a Revolution in Military Affairs, given the emergence of new technologies. Chapter III analyzes the extent to which the U.S. strategic culture and U.S. Army organizational culture of the contemporary period support the pursuit of a Revolution in Military Affairs. Chapter IV fulfills the goal of this thesis research by comparing the findings from Chapters II and III, and suggesting options for the management of constructive change. Chapter V sums up the principal findings and concludes with recommendations for further study.

II. INFLUENCE OF INTERWAR CULTURE ON THE REVOLUTION IN MILITARY AFFAIRS

This chapter examines how culture at the strategic and U.S. Army organizational levels influenced the changes required for a Revolution in Military Affairs. The role of this chapter is to highlight the influence of culture at both levels on change. This is essential for a comparison to culture in the contemporary period—that is, since the 2011 U.S. withdrawal from Iraq to the present. This chapter examines U.S. strategic culture within the context of domestic politics and policymaking institutions, the American way of war, national cognitive style, and presidential preferences for force and diplomacy. U.S. Army culture will be examined through the lenses of doctrine, organization, training and materiel as units of organizational culture in the interwar era.

A. STRATEGIC CULTURE

In his analysis of military innovation in the interwar period, historian Allan Millett wrote that “there are four central problems in assessing interwar military innovation. The first is determining the influence of strategic context.”⁵³ U.S. strategic culture influences the change necessary for a Revolution in Military Affairs. The influence of strategic culture or the strategic context on the change necessary for an RMA is evident in the domestic politics and policymaking institutions of the interwar era. This influence is also evident in the American way of war, the national cognitive style relative to innovation, and the presidential preferences for the use of force and diplomacy in the interwar period.

1. Interwar Era U.S. Politics, Defense Policy and the RMA

Domestic politics influences and shapes U.S. security policy; both control the level and availability of resources, and create institutional stimuli vital to the change required for an RMA. The domestic political environment influences U.S. security

⁵³ Allan R. Millett, “Patterns of Military Innovation in the Interwar Period,” in *Military Innovation in the Interwar Period*, ed. Williamson Murray and Allan R. Millett (New York: Cambridge University Press, 1996), 337.

policy, and by extension the change factors critical to realizing an RMA. Public opinion and voting determine the members of the U.S. Congress, and by extension shape and direct U.S. security policy, and the resources available for military innovation and experimentation.

The domestic political environment influences security policy by the localized pressure it exerts on the elected members of the political institutions that formulate such policies. As noted above, public opinion and voting determine the composition and the spectrum of views in the Executive and the Legislature. In Congress' case, legislators can shape policies supportive of an RMA in terms of directing the military to implement administrative and organizational changes, and providing or withholding the monetary resources vital to research, development, testing, procurement and doctrinal reorganization. Congressional legislation on budget, economic and other issues shapes the funding and technical expertise required for the realization of an RMA.

Domestic politics in the interwar period did not create conditions supportive of the changes required for an RMA. Domestic politics—influenced by the economic challenges of the Great Depression—fostered a parsimonious approach to national security strategy in Congress that drastically reduced U.S. forces as well as War Department funding for research and procurement post World War I. According to Allan R. Millett and his co-authors, Congress believed the nation did not need a large active duty post war force so it denied the Army's request for 500,000 active duty troops, and opted for an active force of 280,000 in the 1920 National Defense Act.⁵⁴ Millett and his co-authors write that congressionally mandated spending cuts further “limited the Army to developing weapons prototypes: it did not have enough money to reequip its field forces to contemporary European standards.”⁵⁵

Amidst the defense budget cuts Congress passed the Air Corps Act in 1926. This set the Air Corps as a separate branch within the Army, and authorized a 1,800 airplane

⁵⁴ Allan R. Millett, Peter Maslowski and William B. Feis, *For the Common Defense: A Military History of the United States of America* (New York : Free Press, 2012), 344.

⁵⁵ Millett, Maslowski and Feis, *For the Common Defense*, 358.

modernization plan.⁵⁶ This also helped improve air capability in the Army but not enough to mitigate the force reduction and the lack of modern equipment to replace obsolete World War I gear.

The Army was not the only service affected by lack of congressional resourcing. Millett and his co-authors write that Congress “declined to modernize the aging Destroyer force, approving only eight of the twenty-eight destroyers the Navy wanted to replace.”⁵⁷ The reduction in funding for forces and equipment hampered doctrinal and organizational changes. Millett and his co-authors write that the Navy was unable to experiment with and test a new amphibious doctrine propounded by the United States Marine Corps under its Commandant at the time Major General John A. Lejeune because “it did not have the transports and landing craft...to make an amphibious landing a bearable risk.”⁵⁸

The Congressionally mandated force and budget reductions of the interwar period denied resources vital for development, and for experimentation with doctrine, organization and technology—vital change factors in realizing an RMA. The strategic culture of the United States is characterized by a system of government in which the elected representatives of the people control the resources critical for the changes supportive of an RMA. The influence of domestic politics on the United States Congress shapes the level of resources available for military innovation and experimentation.

The strategic net assessments of the interwar era failed to stimulate Congress to make a level of investment in military capability development congruent with deterring and defeating a potential adversary like Japan or Germany at the onset of war. A vital relationship exists between strategic net assessments of peers and adversaries and military capability development in a nation. Allan Millett concurs that “the history of the interwar period does demonstrate a relationship between strategic net assessment and

⁵⁶ Millett, Maslowski and Feis, *For the Common Defense*, 349.

⁵⁷ Millett, Maslowski and Feis, *For the Common Defense*, 351.

⁵⁸ Millett, Maslowski and Feis, *For the Common Defense*, 353.

changes in military capability.”⁵⁹ In other words, strategic net assessments greatly influenced defense policy during the interwar era. Assessments partially explain the level of RMA-supportive resources made available or withheld to the Armed Services during the period. It appears that policymakers in Congress and the Executive arm of the U.S. government were not as concerned about the United States’ economic and military capabilities relative to the capabilities of potential adversaries—this was particularly evident in the case of Japan. Historian David Kahn assessed that U.S. policy makers in the interwar period did not consider the developing defense capabilities of potential adversaries. Kahn writes that “in designing and procuring military forces...matters as whether Germany had 100 divisions or 300 and whether Japan had 10 carriers or 20 were not even raised when policy-makers examined the basic issues of strategy.”⁶⁰ In an investigative study of U.S. government strategic net assessments during the interwar years, Calvin Christman found that U.S. strategy formulation was adversely impacted by an absence of information linkage between the Joint Army-Navy Board—responsible to both Department Secretaries for strategic net assessments and operational planning—and U.S. foreign policymakers, the president and the Secretary of State.⁶¹ This meant that critical strategic net assessments were not getting to policy makers, who in turn were not furnishing policy aims and directives to military planners.

The Joint Army Navy Board was responsible for providing strategic net assessments and developing war plans to deal with potential U.S. adversaries like Japan. According to Calvin Christman, War Plan Orange was the Joint Board plan for fighting Japan and it called for the Army’s defense against an initial Japanese attack on the Philippines while the Navy fought and destroyed the Japanese Navy enroute to relieve the

⁵⁹ Allan R. Millett, “Patterns of Military Innovation in the Interwar Period,” in *Military Innovation in the Interwar Period*, ed. Williamson Murray and Allan R. Millett (New York: Cambridge University Press, 1996), 336.

⁶⁰ David Kahn, “The United States views Germany and Japan in 1941,” in *Knowing One’s Enemies: Intelligence Assessment Before the Two World Wars*, ed. Ernest R. May (Princeton NJ: Princeton University Press, 1984), 478.

⁶¹ Calvin Christman, “Franklin D. Roosevelt and the Craft of Strategic Assessment,” in *Calculations: Net Assessment and the Coming of World War II*, ed. Williamson Murray and Allan Reed Millett (New York: Free Press, 1992), 224.

Army.⁶² Christman wrote that for a successful naval maneuver to the Philippines, War Plan Orange required “advanced bases in the mandated islands...to be seized, and neither the army nor the Marines had the necessary troops to seize them.”⁶³ Previous force and budget reductions had effectively reduced the force capabilities vital to defend U.S. interests in the Pacific according to War Plan Orange. The plan’s requirements and strategic assessments failed to remedy this. In other words, the military’s inability to execute War Plan Orange did not convince U.S. policymakers to invest resources to balance national strategic goals in the Pacific with military means. Congress’ vote to deny the Navy’s proposed Guam project in 1938—a project involving the construction of bases on Guam for air and naval units that could reinforce the U.S. presence in the Pacific and America’s ability to defend the Philippines—indicates that isolationists in that policymaking body, though appraised of strategic assessments, failed to respond favorably with resources facilitative of the changes necessary for an RMA.

2. The American Way of War and the RMA (Interwar Period)

How America perceives, prepares, fights and ends wars is part of its strategic culture; it is a unit of analysis of the overall strategic cultural construct, and has been referred to as the American Way of War. Phillip Meilinger agrees that America’s “approach to war has developed in its own distinctive way.”⁶⁴ The American Way of War impacts and shapes factors of change critical to the realization of an RMA—funding, military manning, organization, doctrine, and technological innovation. Meilinger concurs that strategic cultural analysis in this regard is important and “must be attempted because the influence of culture is fundamental to a vast panorama of military art—from strategic communication to order and discipline.”⁶⁵ According to Meilinger, the American approach to war in the contemporary period is historically characterized by a peacetime preference for small, standing armies that can be rapidly mobilized, enlarged

⁶² Christman, “Franklin D. Roosevelt and the Craft of Strategic Assessment,” 238–239.

⁶³ Christman, “Franklin D. Roosevelt and the Craft of Strategic Assessment,” 240.

⁶⁴ Phillip S. Meilinger, “American Military Culture and Strategy,” *Joint Force Quarterly*, no. 46 (2007): 80.

⁶⁵ Meilinger, “American Military Culture and Strategy,” 80.

with reserve and National Guard forces, fight quick and decisive battles, and demobilize at war's end.⁶⁶

The American way of war is characterized by interwar congressional parsimony toward the military, particularly the Army that goes back to the nation's origins. This trend has historical and even constitutional roots, but it hinders pursuing changes required for an RMA. America traditionally pursued drastic reductions in forces and defense budgets after wars that reduce investment in innovation and experimentation—both of which are vital to realizing an RMA. Writing on the influence of society on the military during the course of U.S. history, Millett and his co-authors assert that Americans' "fear of large standing forces" has been one of the factors that have "at various times imposed severe limitations on the availability of monetary and manpower resources."⁶⁷ Article I of the U.S. Constitution encourages this ad hoc and socially reinforced congressional approach to Army readiness by stipulating that "Congress shall have the power...to raise and support Armies, but no Appropriation of Money to that Use shall be for a longer Term than two Years."⁶⁸ The implication here is that Congress is expected to constantly reevaluate the need for an Army and expand and reduce it when adjustments are deemed necessary. The U.S. Constitution reinforces and perpetuates a Congressional and national perception that the Army is to be retrograded between wars, and rapidly upgraded to fight and decisively win wars. In the interwar period this perception did not support maintaining the U.S. Army as a professional and well equipped force, adequately sized and resourced to meet the nation's strategic objectives. As mentioned in the last chapter, Congress chose not to fund the 509,000-man Army proposed by Army Chief of Staff Peyton March in the Baker-March bill. Consistent with the long-established American Way of War Congress did not see the need for a large standing army after World War I, regardless of the strategic commitments of the day or mobilization lessons of that conflict. David Johnson concurs that interwar "Congressional attitudes reflected two

⁶⁶ Meilinger, "American Military Culture and Strategy," 80.

⁶⁷ Millett, Maslowski and Feis, *For the Common Defense*, xiv.

⁶⁸ The Charters of Freedom, Constitution of the United States, accessed August 8, 2014, http://www.archives.gov/exhibits/charters/constitution_transcript.html.

fundamental American traditions: distrust of large standing armies and an unswerving belief in the preeminence of the citizen soldier. The U.S. National Army had mobilized when it was needed and demobilized when the emergency had passed—just as it always had.”⁶⁹

3. Force and Diplomacy in U.S. Foreign Policy and the RMA

Presidential preferences for the use of force in relation to diplomacy in U.S. foreign and security policy can shape the changes required for an RMA. Factors such as military funding and manning are critical to realizing an RMA, and are tied to the strategic preference of presidents for force and diplomacy in pursuit of U.S. strategic goals. The executive bureaucracy is a highly specialized arm of the U.S. government tasked with providing information and policy options to the president in specific areas of responsibility—for example, the Department of Defense on the use of force, and the Department of State on the use of diplomacy. Presidents assume office with their own distinct personalities, preferences and world views which shape their perceptions and their decisions about considerations of policy inputs regarding the use of force and diplomacy in international affairs. Steven Hook argues that a president’s preference for force or diplomacy is based on his “operational code”—a confluence of “principled beliefs regarding the virtues and limitations of human nature, the proper roles of government and...national...and global problems,” as well as “causal beliefs about the best means available for solving these problems.”⁷⁰ A president’s operational code with regard to force and diplomacy shapes the level of investment he is willing to make in changes required for an RMA.

The interwar period, from 1919 up to America’s entry into World War II in 1941, was marked by the Presidencies of Woodrow Wilson from 1913 to 1921, Warren G. Harding from 1921 to 1923, Calvin Coolidge from 1923 to 1929, Herbert Hoover from 1929 to 1933, and Franklin D. Roosevelt from 1933 to 1945. Each president’s preference

⁶⁹ David E. Johnson, *Fast Tanks and Heavy Bombers: Innovation in the U.S. Army, 1917–1945* (Ithaca, NY: Cornell University Press, 1998), 55.

⁷⁰ Steven W. Hook, *U.S. Foreign Policy: The Paradox of World Power*, 4th ed. (Los Angeles, CA: Sage, 2014), 93.

for the use of force and diplomacy in pursuing U.S. strategic aims helps explain how key elements of change required for an RMA—including defense funding and manning—fared during the interwar years.

President Woodrow Wilson was averse to the use of force even when it was supported by public opinion, and instrumental to furthering his views on international norms and influencing the strategic behavior of foreign governments. He strongly preferred diplomacy to force as the means of realizing U.S. foreign policy objectives. According to Arthur Walworth, during the crisis with Mexico involving the military junta of General Huerta “Wilson reluctantly reached the conclusion that force must be used to dislodge Huerta, but he hoped that it would not have to be the force of the United States.” To this end, Walworth wrote, Wilson lifted an existing U.S. arms embargo on Mexico that permitted the flow of arms to Venustiano Carranza, who was fighting against Huerta.⁷¹ Writing on Woodrow Wilson’s outlook on war and diplomacy, Walworth stated that the president “gave consideration to both disarmament and arbitration as means to peace. Though he said little or nothing in public about disarmament, he talked with Sir William Tyrrell of the necessity of curbing armaments.”⁷²

It is thus unsurprising, given Wilson’s preference for diplomacy, that the Army was small, and unprepared in terms of equipment at the start of World War I. Dwight D. Eisenhower wrote that the interwar Army under Wilson’s administration was modest in size; “its total strength in the spring of 1915 was approximately 120,000.”⁷³ Writing about war mobilization on America’s entry into World War I in 1917, Eisenhower stated “as usual, our country was sadly—close to totally—unprepared. While we had mobilized a few more regular regiments in 1916, the strength of the Regular Army was awfully small. Intensive efforts had to start at once to bring our strength up.”⁷⁴ Walworth adds

⁷¹ Arthur Walworth, *Woodrow Wilson*, 2nd ed. (Boston MA: Houghton Mifflin Company, 1965), 369.

⁷² Walworth, *Woodrow Wilson*, 378.

⁷³ Dwight D. Eisenhower, *At Ease: Stories I tell to Friends* (New York: Doubleday & Company Inc, 1967), 33.

⁷⁴ Eisenhower, *At Ease: Stories I tell to Friends*, 127.

that “there was no Army to send. German military experts ranked the force of the United States on a level with those of tiny nations.”⁷⁵

President Harding’s post war administration pursued a security policy consistent with the American post war tradition of military downsizing. According to Robert K. Murray, President Harding came into office on a campaign promise to return America to “normalcy.”⁷⁶ Though Harding was a supporter of the Navy and wanted to continue the 1916 Naval Shipbuilding program, he was politically bound by campaign promises and the strong influence of politically powerful disarmament proponents in Congress like Senator William Borah (R-Idaho).⁷⁷ Thus, Harding’s administration diplomatically strove to maintain international order and balance through disarmament, particularly in the maritime domain. The disarmament treaties signed during Harding’s administration reduced the strength of the Navy and limited technological and organizational innovation by restricting the type and quantity of ships the United States Navy could muster relative to signatory countries like Britain and Japan. According to David Johnson, the 1921 Washington, Disarmament conference “resulted in nine separate treaties that limited naval armaments and addressed tensions in the pacific and China.”⁷⁸

President Calvin Coolidge’s administration (1923–1929) carried out a limited development of the U.S. Navy to meet the nation’s strategic maritime interests and expanded American airpower, but continued the reduction of Army ground forces pursued by the Harding administration. The administration increased the Navy consistent with the limitations of the Washington Disarmament Conference to protect America’s strategic interests in the Pacific. This was because Coolidge’s administration was concerned about growing Japanese naval power and strategic interests in the Pacific relative to U.S. trade and political interests. Millet wrote that the Coolidge administration assigned both newly completed aircraft carriers (USS Lexington and USS Saratoga) to

⁷⁵ Walworth, *Woodrow Wilson*, 101.

⁷⁶ Robert K. Murray, *The Harding Era: Warren G. Harding and his administration* (Minneapolis, MN: University of Minnesota, 1969), 54.

⁷⁷ Murray, *The Harding Era*, 142.

⁷⁸ Johnson, *Fast Tanks*, 65.

the Pacific in 1928.⁷⁹ Coolidge in concert with Congress worked to strengthen the Navy. According to Millett and his co-authors, “Navy planners argued that the ten light cruisers on duty did not meet the long-range requirements of a war with Japan. Congress approved a force of eight heavy or ‘treaty’ cruisers (8 inch guns, 10,000 guns) in 1924.”⁸⁰ Additionally, the Coolidge administration tried to balance against potential threats by investing in emerging airplane technology. According to Millett and his co-authors, in 1926 Coolidge signed the Air Corps Act into law, “which... provided for a force of 1,514 officers, 16,000 men and 1,800 planes, which would be modernized by a five-year expansion and modernization program.”⁸¹

President Coolidge was averse to maintaining the peacetime ground forces deemed necessary by the Army’s leadership to meet the nation’s strategic obligations and war readiness. According to David Johnson, “Coolidge’s avowed domestic program was to reduce government expenditures and enable a tax reduction, and his foreign policy focused on international disarmament. War Department pleas for a larger Army were contrary to both programs.”⁸² Thus, budget cuts during Coolidge’s administration would reduce the army to about 130,000.⁸³ Johnson adds that in a speech delivered in 1925, President Coolidge expressed doubts as to whether the post-World War I strategic environment warranted the budget requirements of the War Department, and stated that “the turning of such resources into the making of good roads, the building of better homes, the promotion of education and all the others [sic] arts of peace which ministry to the advancement of human welfare.”⁸⁴

The Hoover Presidential administration (1929 to 1933) preferred diplomacy to force as a way to preserve U.S. strategic interests. Consistent with this outlook, Herbert Hoover cut back on the naval shipbuilding plans of the Coolidge administration, and

⁷⁹ Millett, Maslowski and Feis, *For the Common Defense*, 350.

⁸⁰ Millett, Maslowski and Feis, *For the Common Defense*, 350.

⁸¹ Millett, Maslowski and Feis, *For the Common Defense*, 349.

⁸² Johnson, *Fast Tanks*, 68.

⁸³ Millett, Maslowski and Feis, *For the Common Defense*, 355.

⁸⁴ Johnson, *Fast Tanks*, 68.

maintained the peacetime trend of reduced Army budgets. According to Millett and his co-authors, in addition to agreeing to further limits to naval shipbuilding at the 1930 London Conference with Britain and Japan, the Hoover administration opposed the 1929 shipbuilding program. Millett and his co-authors added that under Hoover, “the United States agreed to cut its heavy-cruiser program to eighteen ships within a 180,000-ton ceiling...and funding for manning the fleet, operations, maintenance, and modernization dropped about 20 percent below the funds actually authorized in 1922.”⁸⁵

President Franklin D. Roosevelt’s administration (1933 to 1945) sought to reverse the disarmament and military resource deprivation of the Hoover administration. This was consistent with events in the global strategic environment (including the ascendance to power of Adolf Hitler in 1933 and German rearmament). Millett and his co-authors note that “after more than a decade of limiting its armed forces through international agreement and unilateral fiscal action, the United States in 1933 began to rearm.” An early example was Roosevelt’s 1933 public works allocation of \$238 million for building “two carriers, four cruisers and twenty destroyers” over three years.⁸⁶ Johnson observes that Roosevelt also wanted to greatly expand American airpower, and that he pursued a 6,000 airplane development plan by 1939 on the recommendation of the War Department.⁸⁷

Presidents during the interwar period (1919–1941) favored or preferred diplomacy to force in U.S. foreign and security policy. Where force was considered as an instrument of national power it was usually in the maritime domain, because as this was most crucial to preserving U.S. strategic interests in the contested Pacific (Britain and Japan). The presidents during this period—with the exception of Roosevelt—sought to either build or preserve disarmament agreements, concluded mostly with Britain and Japan, but were also concerned about preserving America’s strategic and economic interests in the Far East, particularly against growing Japanese influence. This strategic

⁸⁵ Millett, Maslowski and Feis, *For the Common Defense*, 351.

⁸⁶ Millett, Maslowski and Feis, *For the Common Defense*, 363–364.

⁸⁷ Johnson, *Fast Tanks*, 65.

concern drove presidents—with the exception of Hoover—to build U.S. naval strength while subscribing to the American tradition of keeping small peacetime armies.

Comparably less resources and fewer personnel were made available to Army ground forces despite their role in securing and defending U.S. land bases integral to naval power projection in the Pacific (for example, the Philippines). Moreover, it seems that there was a strategic perception that outside the coastal defense of the continental United States the Army was only needed for colonial constabulary work in the Pacific. This perception helped keep the Army underfunded and undermanned. Lack of funding clearly hampered efforts to pursue the changes vital to realizing a Revolution in Military Affairs in this period. According to Millett and his co-authors, “from 1925 to 1940 the War Department spent about ... \$854 million on weapons procurement and research and development; the ground forces received only \$344 million of these appropriations, or an annual average of \$21 million for new procurement.”⁸⁸ This amount of funding—though helpful for research and development of new equipment like the M1 Garand rifle, the 105 mm howitzer, and the 60 and 81 mm mortars—was insufficient for refitting the interwar Army to keep pace with European armies.⁸⁹

4. The National Cognitive Style and the RMA (Interwar Era)

Societies have different cognitive styles, which affects the way they approach and deal with the organizational, doctrinal and technological changes required for an RMA. According to Adamsky, “the theory of cognitive styles has much to contribute in explaining the sources of disparities in intellectual approaches to military innovations.”⁹⁰ According to Geert Hofstede, cognitive styles or patterns guide people’s behavior in much the same way as a computer’s software guides its functions; such patterns guide the way in which the members of a group perceive, think and speak in solving the challenges of daily life, and teach new members the way to see, think and act.⁹¹ Dima Adamsky

⁸⁸ Millett, Maslowski and Feis, *For the Common Defense*, 358.

⁸⁹ Millett, Maslowski and Feis, *For the Common Defense*, 358.

⁹⁰ Adamsky, *The Culture of Military Innovation*, 23.

⁹¹ Geert H. Hofstede, *Cultures and Organizations: Software of the Mind* (New York: McGraw-Hill, 1991), 4–5.

concur with Hofstede's view that cognitive styles form a framework that shapes how people view, process and act regarding information.⁹² Thus, in a group or a country where people for the most part share a common cognitive pattern it stands to reason that they will view and react similarly to the concept of an RMA, and to the organizational and technological changes integral to realizing an RMA.

America has historically displayed what Gerhard Maletzke labels an Anglo-Saxon cognitive pattern that is "predominantly inductive...thinking within the Aristotelian logical tradition."⁹³ John Mole concurs that "since the renaissance Europe has been divided between the pragmatic, empirical, inductive thinking of Anglo-Saxon and North Sea cultures and the rationalist, deductive thinking of the rest of the continent. Anglo Saxons are uncomfortable with theories and generalizations and concepts. They prefer to deal with data."⁹⁴ This means that for the most part Americans prefer to develop general laws from facts and empirical data—thinking linearly from cause to effect.

According to Adamsky, "cognitive styles vary along the continuum between two... opposed patterns: one grouped under the heading of holistic-dialectical thought and the other under the heading of logical-analytical thought."⁹⁵ Societies that approach technology and organizational change with a holistic-dialectical cognitive style tend to view technology in terms of its broader application within a given field; in other words, such societies are more apt to examine technology for possible new methods of employment that shift the current paradigm of doctrine, organization and theories, as opposed to just enhancing performance within it. Holistic-dialectical thought societies are better able to infer relationships between technology and potential application methods

⁹² Adamsky, *The Culture of Military Innovation*, 131.

⁹³ Gerhard Maletzke, "Interkulturelle Kommunikation: zur Interaktion zwischen Menschen.

Opladen, Westdeutsche 1996" in *Intercultural Research: The Current State of Knowledge*, Stephen Dahl, Middlesex University Discussion Paper no. 26 (2004): 9. http://bjoern.releasemyalbum.com/literature/Dahls_2004_Intercultural%20research-The%20current%20state%20of%20knowledge_Middlesex%20University_Discussion%20Paper_No26.pdf.

⁹⁴ John Mole, "The geography of thinking," *Clinical Medicine* 2. no 4(2002): 343.

⁹⁵ Adamsky, *The Culture of Military Innovation*, 18.

based on historical events.⁹⁶ By contrast, societies that favor logical-analytical thought tend to view and employ technology in terms of the current doctrine, organization and theoretical paradigm or construct.⁹⁷ Such societies prefer logical incremental developments in technology and organizations as opposed to paradigmatic shifts that extensively change the accepted norms.

How the U.S. government and the Army dealt with the technologies that emerged from World War I—including the tank, the airplane and the radio—demonstrates a highly logical analytical cognitive pattern. The U.S. Army and government of the interwar era, consistent with their logical analytical thought pattern, sought to exploit emerging technologies in a rational, gradual way within existing organizational and doctrinal constructs as opposed to what were seen as disruptive, irrational shifts in the doctrinal and organizational paradigm or construct of military affairs.

Dwight Eisenhower's experience as a young Captain stationed at Fort Benning supports this assessment. According to Eisenhower, he and a colleague at the Infantry school—George S. Patton Jr.—took to experimenting with the early generation of slow moving tanks to develop a tank doctrine that in essence changed the role of the tank from a traditional World War I infantry mobile fire support platform moving at 3 mph to one where tanks were faster and more lethal and maneuvered en masse, independent of infantry. In Eisenhower's words, "by making good use of the terrain in advance, tanks could break into the enemy's defensive positions, cause confusion...[and] make possible not only advance by infantry but envelopments."⁹⁸ After publishing their findings in the Cavalry and Infantry journals both future generals were reprimanded by the Commander of the Infantry School, Major General Charles S. Farnsworth. Eisenhower wrote that "I was told that my ideas were not only wrong but dangerous and that henceforth I was to keep them to myself. Particularly, I was not to publish anything incompatible with solid

⁹⁶ Adamsky, *The Culture of Military Innovation*, 18.

⁹⁷ Adamsky, *The Culture of Military Innovation*, 18.

⁹⁸ Eisenhower, *At Ease*, 169.

infantry doctrine. If I did, I would be hauled before a court-martial. George, I think, was given the same message.”⁹⁹

The Army was divided in that some favored research, development and experimentation with bold organizational and doctrinal concepts (armored battalions and combined arms maneuver) based on the existing tank technology while others felt that the technology should conform to and support the existing infantry centric combined arms paradigm (which regarded tanks as support weapons meant to crawl behind moving infantry as they did in World War I). The latter prevailed when the 1920 National Defense Act abolished the tank corps as a separate arm. According to Millett and his co-authors, “Congress and the General Staff agreed that tanks should support infantry, the decisive arm in combat, so tank units joined the regular infantry for training. The doctrine for tank use remained wedded to the concepts (and speed) of infantry combat.”¹⁰⁰

Airplane technology fared better with the interwar American logical analytical cognitive process. Unlike tanks, airplane technological and doctrinal development post World War I was viewed as a logical progression of its wartime performance; it indicated potential, though there was still some skepticism. Brigadier General Billy Mitchell was among the more famous of the interwar era airpower supporters whose efforts and experimentation encouraged the establishment of the Army Air Corps by the 1920 National Defense Act, and greater investment in airpower. According to Millett, and his co-authors, Mitchell argued, albeit exaggeratedly, “that the airplane would replace the battle fleet as the ultimate weapon of coastal defense,” and agitated for a separate Air Force.¹⁰¹ The doctrinal role of airpower evolved from reconnaissance and close air support in World War I to coastal defense and strategic bombing, which fueled arguments for a separate air force. American logical analytical thought featured at this juncture as the government and the Army ruled out the possibility of a separate air force – a change that would have spurred organizational, doctrinal and technological development of air power for strategic bombing, reconnaissance and coastal defense. According to Millett

⁹⁹ Eisenhower, *At Ease*, 172.

¹⁰⁰ Millett, Maslowski and Feis, *For the Common Defense*, 358–359.

¹⁰¹ Millett, Maslowski and Feis, *For the Common Defense*, 347.

and his co-authors, “military aviation policy did not suffer from official neglect, but the consensus within Congress and the executive branch—was that the aviators had not discovered an independent mission for themselves.”¹⁰² President Coolidge’s Morrow Board—a group appointed to evaluate air power development—encouraged the development of air power but not an independent air force.¹⁰³

B. U.S. ARMY CULTURE AND THE RMA IN THE INTERWAR PERIOD

Dwight D. Eisenhower’s previously mentioned observation that the Army was unprepared at the start of World War II and his experience in trying to promote a new tank doctrine and organizational change invite analysis of the Army’s strategic culture during the interwar period. This is particularly important for a comparison with contemporary Army strategic culture in order to manage potentially harmful recurring trends that favor relearning old lessons from the interwar period. The challenge with studying culture is adopting suitable units of analysis within the system being analyzed. In the case of the interwar U.S. Army this section examines policies affecting the changes required for an RMA in the areas of doctrine, organization, and materiel. These areas are reliable units of analysis because they are fundamental elements of U.S. Army transformation.

1. Army Doctrine, Change and the RMA in the Interwar Period

The U.S. Army defines doctrine as the “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.”¹⁰⁴ During the interwar period there was general institutional inertia regarding doctrinal experimentation and change—a vital requirement for realizing an RMA. There was some innovation with reference to emerging tank, airplane and radio technology; but these innovations were coupled with a weak institutional effort to study and develop new doctrine. Thus, during the interwar

¹⁰² Millett, Maslowski and Feis, *For the Common Defense*, 347.

¹⁰³ Millett, Maslowski and Feis, *For the Common Defense*, 349.

¹⁰⁴ Headquarters Department of the Army, *Operational Terms and Military Symbols* (ADP 1–02), Washington, DC: Department of the Army, September 26, 2012. http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/adp1.pdf, 2.

period, the U.S. Army largely sought to integrate emerging technology within existing doctrine and the World War I paradigm of military affairs (defensive, infantry-centric warfare) as opposed to seeking out new methods (such as mechanized/motorized combined arms maneuver) and organizations (armored and mechanized/motorized infantry units) to employ them.

The Army leadership was basically split between those who believed that what worked in World War I ground maneuver was going to work in another war, and thus focused more on what was the most difficult lesson learned from World War I—mass mobilization—and those who saw greater potential in emerging technology, and urged investment in research, procurement, doctrinal experimentation, reform and reorganization. David Johnson concurs that “the lessons of the Great War were viewed in two fundamentally different ways. Some officers, including Mitchell, saw potential in the new weapons. Others, such as John Pershing and Peyton March, were more skeptical. In the aftermath of the war, the skeptical view dominated.”¹⁰⁵

The skeptical faction was favored under the Harding and Coolidge presidential administrations that spanned the 1920s. According to Millett and his co-authors, in the 1920 National Defense Act, Congress chose to go with the recommendations of a hired expert, Colonel John McAuley Palmer, to reduce the Army to 280,000, which was well below the 500,000 man active force recommended by the Secretary of War, Newton Baker, and the Army Chief of Staff, Peyton March.¹⁰⁶ As part of the reduction Congress also mandated the dissolution of the Army’s Tank Corps. This measure subordinated tank doctrine to the Commandant of the Infantry School and Ordnance.

The 1920 Defense Reorganization Act subordinated tank doctrine to an infantry establishment that was skeptical of the potential battlefield applications of the new technology. The key leaders in the infantry-centric army that won World War I were largely intolerant of doctrinal experimentation and change that challenged the existing paradigm in which the infantry was the sole decisive force in combat. Tank proponents

¹⁰⁵ Johnson, *Fast Tanks*, 58.

¹⁰⁶ Millett, Maslowski and Feis, *For the Common Defense*, 344.

were censored and repressed. Doctrinal experimentation and change are vital to realizing an RMA, while thus institutional repression of experimentation is inimical to promoting an RMA. This was, however, the norm in the interwar period. According to Millett and his co-authors, “the Army’s halting development of armored forces typified all the problems of interwar modernization. By 1920 the wartime Tank Corps of some 5,000 vehicles and nearly 20,000 officers and men had shrunk to 700 French- and British-model tanks and 2,600 soldiers.”¹⁰⁷ The disbandment of the Army’s dedicated Tank Corps hindered tank doctrinal research, experimentation and development. Bright young officers like George Patton and Dwight Eisenhower sought to convince the Army on doctrinal reform that would have employed tanks in a more effective role in combined arms maneuver, but the Army leadership suppressed their views and censored them. As a Major, Dwight Eisenhower was reprimanded about his views on the creation and employment of separate tank and mechanized formations (battalions, etc.) in combined arms maneuver, and told to support existing doctrine that subordinated tanks to infantry to serve as support platforms in infantry maneuver.¹⁰⁸

Like the tank, the airplane at the end of World War I was also viewed within the construct of infantry ground support, but was able to transcend this doctrinal role by the mid-1920s. This explains the far greater strides in air doctrine and airplane design compared to armor. David Johnson concurs that “at the close of WWI, airmen generally perceived the principal role of aviation as supporting the ground battle.”¹⁰⁹ This changed with the efforts of Brigadier General Billy Mitchell and other airpower advocates that argued that the air force could operate in doctrinal roles justifying its separation from the Army—specifically strategic bombing. The Army and Congress were not convinced, and settled for the Army Air Corps as a separate branch of the Army responsible for the development of airpower and doctrine. But as airplane technology improved, Army aviation officers and the War Department pushed for greater investment in airpower. Congress listened, and according to David Johnson,

¹⁰⁷ Millett, Maslowski and Feis, *For the Common Defense*, 358.

¹⁰⁸ Johnson, *Fast Tanks*, 77.

¹⁰⁹ Johnson, *Fast Tanks*, 91.

“Congress enacted two bills in 1926, the Air Commerce Act and the Air Corps Act. They placed aviation research and development outside of the control of the Army. The National Aeronautical Advisory Committee did much of the fundamental research, and the Air Corps, unlike the rest of the Army, did not have to rely on the Ordnance Department for major equipment items.”¹¹⁰

2. Army Organization, Change and the RMA in the Interwar Period

There was significant institutional inertia in the Army when it came to the reorganization of ground formations to test and better exploit the possibilities offered by emerging technology in ground combat. The skeptical interwar Army leadership won on issues that are key to organizational change—a vital component of the RMA. These issues ranged from force manning (overall and especially in the Pacific) to tank and amphibious organizational development.

The American Way of War rejects the concept of large standing armies. It is manifested in America’s massive reduction in forces after every war with far reaching second and third order effects on organizational change. The interwar period is arguably the most glaring example. Millett and his co-authors contend that, “spending only 2 percent of each tax dollar on the Army, the United States had disarmed itself more effectively than the Versailles Treaty disarmed Germany...budgetary pressures kept the half-strength regular army at around 130,000 officers and men.”¹¹¹ This was well below the 500,000 man active army requested by General Peyton March and the War Department in 1919 and the 280,000 man active force envisioned by the 1920 National Defense Act.¹¹²

Evidence of the reduction in forces during this period can be seen in the Army forces in the Pacific. Their ability to adapt to the defense of U.S. interests in the Philippines and Hawaii against an increasingly belligerent Japan under War Plan Orange was consequently compromised. As previously noted, Brian Linn wrote that after the

¹¹⁰ Johnson, *Fast Tanks*, 90.

¹¹¹ Millett, Maslowski and Feis, *For the Common Defense*, 358.

¹¹² Millett, Maslowski and Feis, *For the Common Defense*, 344.

1920 Defense Act “the Regular forces in the Pacific never approached the peacetime strength envisioned by General Peyton March. In 1921 the Philippines had a garrison of 13,251 and Hawaii one of 15,368; three years later their forces totaled 11,808 and 13,096 respectively.”¹¹³

As previously discussed, Army leaders believed the tank should remain an infantry support platform, and did not see the potential for tanks to maneuver in mass formations (battalions). The General Staff therefore disbanded the Tank Corps. Millett and his co-authors, wrote that, “despite some interesting exercises by two small tank battalions...the Tank Corps disappeared after the National Defense Act of 1920...Congress and the General Staff agreed that tanks should support infantry, the decisive arm in combat.”¹¹⁴ One can argue that the Tank Corps (the two initial tank battalions) was to combined arms doctrinal and technological research, development, and experimentation what the Army Air Corps was to air doctrine and airplane technology. The dissolution of the tank corps hindered America’s development of combined arms doctrine and tank technology because it was the seed and test bed for research, development and experimentation. Dwight Eisenhower and George Patton were the commanders of the two small tank battalions previously mentioned. Eisenhower wrote about their work. According to Eisenhower, they were constantly experimenting;

All our experimenting and training took time. If some of the conservatives in the War Department had known exactly what we were up to, they might have condemned it as a waste of time...the small group around George and me knew we were pioneering with a weapon that could change completely the strategy and tactics of land warfare... every mistake we made, every correction, every scrap of information was added to World War I’s lessons. These were the beginnings of a comprehensive tank doctrine that in George Patton’s case would make him a legend.¹¹⁵

Contrastingly, the German army during this era (also referred to as the Reichswehr) under the leadership of Chief of General Staff Hans von Seeckt displayed a culture supportive of organizational change for the doctrinal and technological

¹¹³ Linn, *Guardians of Empire*, 146.

¹¹⁴ Millett, Maslowski and Feis, *For the Common Defense*, 358.

¹¹⁵ Eisenhower, *At Ease*, 171.

development of combined arms warfare. According to James Corum, von Seeckt believed that World War I proved that maneuver was superior to firepower, and he visualized future war as a largely mechanized maneuver affair.¹¹⁶ Consistent with his view, Hans von Seeckt focused a significant amount of the German Army's Officer Corps on studying World War I, and exploring ideas for improving maneuver doctrine using emerging technology. According to Williamson Murray, he tasked over 400 officers with combat experience (roughly 10 percent of the Officer Corps organized in different committees) to study World War I doctrine and tactics; the result, according to Williamson Murray, "was the extraordinary Army Regulation (AR) 487 ('Leadership and Battle with Combined Arms')."¹¹⁷ This regulation (published from 1921–1923) changed the focus of German doctrine from defensive to offensive maneuver, and boldly reformed unit formations, maneuver and tactics. For example, according to Corum, AR 487 reinforced the Reichswehr's cavalry with observation aircraft, signal and armored car battalions, as well as additional infantry, bicycle, and machine gun troops.¹¹⁸ AR 487 integrated World War I airplane, armor and communications technology into traditional units to improve their performance.

The U.S. Army recognized the importance and relevance of amphibious capability to an expeditionary force during the interwar period, but institutional inertia reinforced by leadership attitude to change and innovation and external budgetary pressures hindered the development of amphibious doctrine, forces and capable equipment for much of the interwar period. The War Department and the Army realized that more amphibious forces were needed to fulfill American strategic objectives in the Pacific. Leo Daugherty wrote that "Army officers during the mid-1920s considered the very likelihood that they would have to carry out either an amphibious insertion or landing operations against an

¹¹⁶ James S. Corum, *The Roots of Blitzkrieg: Hans Von Seeckt and the German Military Reform* (Lawrence, KS: University Press of Kansas, 1992) 38.

¹¹⁷ Williamson Murray, "Armored Warfare: The British, French, and German experiences," in *Military Innovation in the Interwar Period*, ed. Williamson Murray and Allan R. Millet (Cambridge University Press, 1996) 37

¹¹⁸ Heeresdienstvorschrift 487, Führung und Gefecht der verbundenen Waffen, Berlin: Verlag Offene Worte, 1921, 1923, 1925, Part 1, 47 in *The Roots of Blitzkrieg: Hans Von Seeckt and the German Military Reform*, James S. Corum, Lawrence, KS: University Press of Kansas, 1992, 46.

entrenched enemy on a hostile shore.”¹¹⁹ Lieutenant General Arthur G. Trudeau, for example, stated that the Army leadership “knew that there were problems that might require U.S. troops over there [i.e., Asia]...we recognized that, at some time or other, there probably would be some problems in the Pacific. Then, in 1936, they [the Japanese] went into China on a big scale and the chips were down. It was just a question of when.”¹²⁰ However, the Army would not designate amphibious forces until 1939 when it tasked the 3rd Infantry Division to conduct training for amphibious operations.¹²¹ Daugherty cited “the lack of money and public support for the military” as factors responsible for the lack of training and readiness; this also hindered innovation and development in the realm of amphibious warfare—something that proved critical to World War II operations.¹²²

As previously noted, there was a prevailing consensus among Army leaders of the interwar era on the value of developing airpower. The Army Air Corps therefore saw greater investment in manning and organization. This increased after the creation of the Army Air Corps, and the passage of the 1926 Air Commerce and Air Corps Acts. The latter gave more latitude for doctrinal and technological research, development and experimentation. Such latitude was denied to the Tank Corps, which was absorbed by the Infantry.

3. Army Materiel, Change and the RMA in the Interwar Period

Army materiel development and acquisition or procurement policies are a vital component of the organizational change required for an RMA. Such policies are shaped by the national strategic culture, and by the organizational culture of the Army. Army materiel development during the interwar period was challenged by America’s strategic tradition of post-war Army drawdowns, and by a general strategic perception of the

¹¹⁹ Leo J. Daugherty III, *Pioneers of Amphibious Warfare 1898–1945: Profiles of Fourteen American Military Strategists* (Jefferson, NC: MacFarland and Company, 2009), 325.

¹²⁰ Arthur G. Trudeau, “Engineer Memoirs: The Oral History Transcript of Lieutenant General Arthur G. Trudeau,” quoted in Leo J. Daugherty III, *Pioneers of Amphibious Warfare 1898–1945: Profiles of Fourteen American Military Strategists* (Jefferson, NC: MacFarland and Company, 2009), 325.

¹²¹ Daugherty, *Pioneers of Amphibious Warfare 1898–1945*, 336.

¹²² Daugherty, *Pioneers of Amphibious Warfare 1898–1945*, 324.

period that, owing to the cost of World War I, nations would probably no longer resort to war as a means to realize their political and strategic goals. The creation of the League of Nations and the arms limitation treaties, including the Versailles treaty and the accords concluded at the Washington Naval Conference, appear to have reinforced this perception.

The traditional post-war Army drawdown, reinforced by the strategic outlook of the interwar Army and national leaders, greatly reduced funding for materiel development and procurement for the Army. According to the Richard Stewart and the Center of Military History, the 1920 National Defense Act (signed by President Warren G. Harding) gave the War Department around roughly “\$300 million per year. This was about half the estimated cost of fully implementing the force structure authorized in the National Defense Act.”¹²³ Additionally, Millet and his co-authors wrote that “from 1925 until 1940 the War Department spent about \$6.2 billion. Of this sum \$854 million (roughly two years’ appropriations) went to weapons procurement and research and development; the ground forces received only \$344 million of these appropriations, or an annual average of \$21 million for new procurement.”¹²⁴ This severely limited the amount of equipment the Army could develop and procure. Stewart and the Center of Military History concur that for much of the interwar period (until the mid to late 1930s) “Army arsenals and laboratories were consequently handicapped by small budgets. Little new equipment was forthcoming for ground units until Army appropriations began to rise in 1936.”¹²⁵

Also, the Army leadership during the interwar period focused more on a major World War I challenge—force mobilization and deployment—that aligned scarce funding largely in favor of force preservation (particularly highly deployable, light, mobile infantry forces), and less toward materiel development and acquisition. According to Stewart and the Center for Military History, “during the interwar era the Army focused

¹²³ Richard W. Stewart and U.S. Army Center for Military History, *American Military History, Volume II: The United States Army in a Global Era, 1917–2008* (Washington, DC: Center of Military History, 2010), 61.

¹²⁴ Millet, Maslowski and Feis, *For the Common Defense*, 358.

¹²⁵ Stewart and Center of Military History, *American Military History, Volume II*, 61.

its limited resources on maintaining personnel strength rather than on procuring new equipment.”¹²⁶ This fostered neglect in the development of tank and combined arms doctrine, and created an institutional strong emphasis on light tanks at a time when potential peer or near peer rivals (Germany and Russia) were building medium and heavy tanks. Stewart and the Center for Military History concur that the Army’s light tanks “would not compare favorably in firepower, one on one, to World War II German and Russian models.”¹²⁷

Air forces proved the exception in terms of Army materiel development and acquisition during the interwar era because the strategic potential of airpower was greatly promoted by advocates, and evident to many at the highest levels of government. Army modernization for much of the interwar was dominated by developments in the Army Air Corps. As mentioned earlier, the Coolidge administration, despite reducing spending, invested in the growth of the Army Air Corps by signing the Army Air Corps Act into law and initiating a five year development plan of the new branch.

C. CONCLUSION

The U.S. Army’s strategic and organizational culture during the interwar period in certain respects supported the changes required for an RMA. This is particularly true of the development of airpower, marked by the creation and enlargement of the Army Air Corps and subsequent well-funded improvements in airplane technology and doctrine (strategic bombing). The broader U.S. strategic culture supported greater investment in airpower because national leaders saw value in it (thanks in large part to airpower advocates like Brigadier General Billy Mitchell).

For the most part, however, the broader strategic culture and aspects of the Army’s culture, particularly intra-service parochialism in favor of infantry-centric warfare, combined to hinder the level of doctrinal, organizational and materiel changes that would have better propelled America’s shift from the World War I paradigm of static defensive warfare to high mobility combined arms maneuver. As discussed previously,

¹²⁶ Stewart and Center of Military History, *American Military History, Volume II*, 61.

¹²⁷ Stewart and Center of Military History, *American Military History, Volume II*, 67.

Army leaders like General John Pershing, who became Chief of Staff after General Peyton March, were skeptical of the potential of the tank. Their outlook contributed to institutional intolerance for doctrinal and technological development of the tank. By subordinating the Tank Corps to the infantry, tank development was yoked to its ability to support infantry, and not how well it could maneuver against mass formations of enemy tanks as it had to do in North Africa during World War II. This hindered American tank development in critical areas, including main gun armament and armor. Tank speed increased due to the motorization of infantry (tanks had to keep up). The German Reichswehr was able to develop tanks in the critical areas of main gun armament and armor (the Germans used thicker rolled armor) through dedicated research, development and experimentation on tank doctrine and technology. Based on the above, it is unsurprising that the U.S. Army focused on building medium tanks and light tanks like the M3 Stuart tank. The Stuart tank had a comparatively smaller main gun (37mm) than its German opponent in North Africa: the German Panzer Mk IV, which had a 75mm main gun and thicker, rolled armor.

This disparity in tank design and development proved fatal for many American tank crews in World War II. In the 1942 Battle of Happy Valley (the first U.S.-German tank battle of World War II) the U.S. Army was using the M3 Stuart tank, which was developed in 1941, while the Germans were using Panzer Mk IV tanks fielded in 1939. U.S. Army First Lieutenant Freeland A. Daubin Jr of the 1st Regiment, 1st Armored Division, wrote that he and “his loader picked out one particular Mk.IV tank... then pumped more than eighteen rounds [from the Stuart’s 37mm “squirrel rifles”] at the Jerry [German] tank...which ricocheted harmlessly off its armor.” Daubin added that “the effect of the Mk. IV’s long 75mm gun on the Stuart” blew him out of his tank turret and killed his crew.¹²⁸ The disparity between American and German tanks in lethality and survivability would continue throughout the war—replicated with later models (the U.S. M4 Sherman tank and the German Tiger tank).

¹²⁸ Freeland A. Daubin Jr., “The Battle of Happy Valley,” in *Ronsons, Zippos, Brew-Ups, and Tommycookers: The M4 Sherman Tank and American Armored Development during World War II*, John M. Muller, University of Texas at Arlington, Last modified 07 August, 2013, (http://dspace.uta.edu/bitstream/handle/10106/11090/Muller_uta_2502M_11617.pdf?sequence=1.)

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III. INFLUENCE OF CONTEMPORARY CULTURE ON THE REVOLUTION IN MILITARY AFFAIRS

An RMA requires a change in organization (structures) and doctrine (methods) based on new and/or existing technology that shifts widely accepted practices in the conduct of military affairs. An RMA drastically changes the pace and trajectory of technology and military evolution, compelling practitioners to rapidly adapt or become irrelevant. In the period from the 2011 withdrawal of U.S. conventional military forces from Iraq to the present, culture at the strategic and Army levels in the United States has greatly affected the change required for the realization of an RMA.

This chapter examines exactly this question: how culture at the strategic and Army levels has affected the organizational change necessary for a Revolution in Military Affairs. In the period under observation, U.S. culture at the strategic and Army organizational level, while supportive of the gradual evolution and positive development of military organization and technology, has been largely unsupportive of the bold organizational change required for an RMA. This chapter examines U.S. strategic culture using the previously established parameters; domestic politics and policymaking institutions, the American Way of War, national cognitive style, and presidential preferences concerning the use of force and diplomacy. U.S. Army culture is examined within the context of doctrine, organization, and materiel as fundamental elements of institutional transformation.

A. STRATEGIC CULTURE AND THE RMA IN THE CONTEMPORARY PERIOD (2011–PRESENT)

Parameters are required to analyze the impact of U.S. strategic culture on the changes required for an RMA. The parameters selected for this analysis of U.S. strategic culture stem from both history and the policy making institutions of the United States. This study approach is consistent with the third generation of strategic culture theory, which argues that a state's strategic behavior is the result of higher level strategic

assumptions shaped by history, and lower level assumptions about the best strategic options for operating in the rules-based international regime.¹²⁹

According to Adamsky, scholars adopt parameters for the study of strategic culture from what he defines as “three different pools: national-popular culture, characteristics of policy-making mechanisms in security affairs, and...organizational cultures of defense institutions.”¹³⁰ Alan R. Millett and his fellow authors acknowledge these parameters in their study of the development of military policy by writing that “the political system and societal values have imposed constraints on defense affairs.”¹³¹ Interestingly, these parameters for studying strategic culture are consistent with the previously discussed third generation of literature on strategic culture. Thus, contemporary U.S. strategic culture can be studied using units of analysis consistent with the following categories of parameters for understanding strategic culture: the influence of domestic politics on U.S. security affairs, the national preferences in waging war (or the American Way of War), the use of force and diplomacy in U.S. security policy formulation, and the national cognitive style with regard to technology and organizational change.

1. Contemporary U.S. Politics, Defense Policy and the RMA

According to James Lindsay, “dollars are policy in Washington, DC, and the president generally cannot spend money unless Congress appropriates it. Thus, by deciding to fund some ventures and not others, Congress can steer the course of U.S. defense and foreign policy.”¹³² Gideon Rachman underscores Congress’ critical role in technological progress by writing that if lawmakers fail to create much needed jobs the

¹²⁹ This refers specifically to Alastair Johnston’s definition of strategic culture, which falls into the third generation of literature on the subject.

Alastair Iain Johnston, “Thinking about Strategic Culture,” *International Security* 19, no. 4 (1995), 46–48, <http://www.jstor.org/stable/2539119>.

¹³⁰ Adamsky, *The Culture of Military Innovation*, 12.

¹³¹ Millett, Maslowski and Feis, *For the Common Defense*, xiv.

¹³² James M. Lindsay, “The Shifting Pendulum of Power,” in James M. McCormick, *The Domestic Sources of American Foreign Policy: Insights and Evidence* (Lanham, MD: Rowman & Littlefield, 2012), 225.

United States could potentially witness a “brain-drain” of the foreign minds it attracts and needs to maintain its position as a leader in technology, and by extension military innovation.¹³³ Both authors refer to a characteristic of the U.S. political system: the defense and economic policies of the leaders elected to the domestic political institutions affect the funding and human capital. In the case of human capital, the economic policies of the Congress could cause a massive emigration of America’s bright minds, which are vital to the innovation component of an RMA.

In the period in question, Congress has reduced the defense budget as part of an overall effort to cut government spending. Funding limits or supports the Army’s capacity for research, development, and testing, as well as its acquisition of improved capabilities like the Army’s Ground Combat Vehicle (GCV). Funding also drives or hinders doctrinal experimentation with existing and emerging technologies, much as it did in the interwar period. In the case of the GCV, the Army had to cancel it due in large part to funding cuts. According to Andrew Feickert, Congress appropriated as per P.L. 113–76 “\$100.2 million for the GCV program for FY2014—a \$492 million cut to the President’s FY2014 budget request.”¹³⁴

Thus, one can argue that in terms of domestic political institutions, and the national security policymaking process, the strategic culture of the United States in the period in question (from 2011 to the present) is largely unsupportive of the drastic changes in organization, methods and technology required for a Revolution in Military Affairs. This is because at the strategic level, culture has reduced the top down impetus, as well as the resources vital to the changes required for an RMA.

2. The American Way of War, and the RMA

The American Way of War, as discussed in the preceding chapter, affects the changes necessary for the realization of an RMA in the contemporary period in question.

¹³³ Gideon Rachman, “Think Again: American Decline,” in *The Domestic Sources of American Foreign Policy: Insights and Evidence*, ed. James M. McCormick (Lanham, MD: Rowman & Littlefield, 2012), 49–50.

¹³⁴ Andrew Feickert, “The Army’s Ground Combat Vehicle (GCV) Program: Background and Issues for Congress,” Congressional Research Service, March 14, 2014, http://assets.opencrs.com/rpts/R41597_20120301.pdf.

In other words, how America perceives, prepares, fights and ends its wars continues to shape the changes in funding, manning, doctrinal, organizational, and technological innovation and experimentation required for an RMA.

Traditionally, Americans prefer short, victorious wars in which they decisively dominate and defeat their adversaries. Meilinger wrote that America's constitutional control of the military and its geographic isolation have—since the nation's origins—combined to create a national perception of war as an anomaly to be decisively addressed and resolved.¹³⁵ While this preference supports technological innovation for superior arms, it promotes an ad hoc approach to organizational change—construing the latter as something to be rapidly improvised under pressure in pursuit of a decisive victory in war.

The American Way of War is harmful to the achievement of an RMA because it deprives the innovation process of resources between major armed conflicts. However, in the contemporary era of persistent threats and conflicts, the American Way of mobilizing and demobilizing resources in response to fluctuating conflicts is proving problematic for the attainment of America's national security objectives. Preserving America's global strategic role and fulfilling its commitments mandate a steady stream of resources and forces—much to the benefit of the RMA process. This would overcome the national strategic culture of drastically cutting forces and military spending between conflicts.

3. Force and Diplomacy in U.S. Foreign Policy and the RMA

Presidents whose operational code favors American military power over diplomacy for protecting and advancing U.S. interests in international politics are more likely to invest in defense funding and innovation—both factors that support the realization of an RMA. Presidents Ronald Reagan and George W. Bush fit this profile. According to Hook, Reagan's operational code shaped his “confrontational approach toward the Soviet Union,” while George W. Bush's operational code “could be seen in...his forceful response to the September 2001 terrorist attacks.”¹³⁶

¹³⁵ Meilinger, “American Military Culture and Strategy,” 81.

¹³⁶ Hook, *U.S. Foreign Policy*, 93.

Presidents who favor diplomacy and multilateralism in international affairs see less utility in making great investments in defense capabilities compared to other areas of policy. This affects the resources vital to experimentation and innovation. This is evident in the continued military drawdown, influenced in part by President Barack Obama's operational code, which favors diplomacy over force. The president can support or hamper the pursuit of an RMA in terms of his security strategy and directives to the military, which are shaped in part by public opinion and Congressional input. For example, military conflict is arguably a potent catalyst for changes in military organization, doctrine, and technology. Thus, a U.S. president's decision to engage in or withdraw from military conflict impacts the resources and impetus for change supportive of an RMA.

In the period in question, the Obama administration ended the U.S. combat role in the Iraq campaign in 2011, and it ended the combat phase of the NATO-led Afghanistan operation in December 2014. Though the administration has since July 2014 been resending U.S. troops to Iraq, the force levels have not been on the scale of the ground counterinsurgency campaign from 2003 to 2011, and therefore cannot drive innovation and organizational changes in the same way. Thus, the Obama administration's war termination strategy and bid to avoid large-scale ground conflicts deprive the change process of a powerful catalyst—armed conflict.

According to Hook, President Obama's operational code rests on "the principled belief that the United States should provide moral leadership in...foreign policy" and on causal beliefs that "led him to revive diplomatic cooperation, and affirm U.S. support for international law."¹³⁷ The Obama administration has to date opted for diplomacy and non-lethal assistance in the Ukraine crisis. It has ruled out sending lethal military assistance, and any use of military force. According to President Obama, the sanctions his administration has levied on Russia in the Ukraine crisis have imposed "sufficient costs

¹³⁷ Hook, *U.S. Foreign Policy*, 93.

on Russia that ... President Putin should want to resolve this diplomatically, [and] get these sanctions lifted.”¹³⁸

4. The National Cognitive Style and the RMA

In the contemporary period since the 2011 troop withdrawal from Iraq, America’s generally logical-analytical national cognitive style or pattern has supported military technological innovation in principle, but has refrained from aggressive experimentation with new organizations and methods of applying such technology. The nation’s generally logical-analytical cognitive style characteristically favors a gradual evolution in warfare congruent with the current paradigm of military thought and theory. For example, the U.S. Army continues to promote the development and use of drone technology in an Intelligence, Surveillance and Reconnaissance (ISR) capacity to support ground maneuver. The Army is not likely to experiment with concepts like maneuvering battalions and regiments of drones in a combined arms maneuver, or using them to monitor whole cities in counterinsurgency campaigns because such applications appear too far outside the current paradigm of combined arms maneuver; in other words, such concepts appear to skeptics as an illogical progression of ground maneuver as we now know it. Like Combined Arms Maneuver, such bold concepts are more likely to be emulated based on their successful employment in conflict by others.

In summary, America’s logical-analytical cognitive style, unlike the holistic-dialectical style, does not promote consideration of wider applications of technology outside the current construct of military doctrine and organization. It lacks the impetus to pursue new concepts of warfare that do not appear to be a logical progression of the existing paradigm. In its pragmatic approach to innovation and change this cognitive style—perhaps inadvertently—preserves dogma in the current paradigm of military thought, in contrast to a holistic-dialectical cognitive pattern that seeks wider applications of technology that include bold organizational changes.

¹³⁸ Barack Obama, “Press Conference by the President,” IIP Digital, U.S. Department of State, August 1, 2014, <http://iipdigital.usembassy.gov/st/english/texttrans/2014/08/20140801304770.html#ixzz39Hex2AU6>.

B. U.S. ARMY CULTURE AND THE RMA IN THE CONTEMPORARY PERIOD

The organizational culture of the U.S. Army in the contemporary period influences the change required for the realization of an RMA. For the most part, the culture promotes the technological component of the RMA process but is highly resistant to bold organizational change (i.e., outside the current paradigm), the other critical component to the RMA process. As noted in Chapter I, the literature on organizational culture identifies units of culture that can be used as parameters for the study of organizational culture. These units include practices, values, and methods for solving problems. The previously used parameters of doctrine, organization and materiel can be considered units of culture because they are part of the Army's transformation framework. In other words, these are critical areas of emphasis for implementing change in the U.S. Army. They help to ensure that change is comprehensive.

1. Army Doctrine Change and the RMA in the Contemporary Period

According to the RAND Corporation "military doctrine is the fundamental set of principles that guides military forces as they pursue national security objectives...these principles... can range from the policies and procedures put in place by a particular military branch to the tactics and techniques taught to new members during training."¹³⁹ Doctrinal research that is focused on developing new methods and organizations (and that is attuned to the range of military operations for employing existing and emerging technology) is critical to realizing an RMA. The U.S. Army has institutions like the Army Capabilities Integration Center (ARCIC) and its sub-organization the Brigade Modernization Command (BMC) that aspire to such doctrinal research. However, their focus is largely on the integration of new and emerging technological capabilities into current and modified versions of the Army's operating concept and doctrine. These institutions are less focused (perhaps owing in part to current funding cuts) on the research, development and experimentation of bold new methods and organizations that

¹³⁹ RAND Corporation, "Military Doctrine," accessed 6 June, 2014, <http://www.rand.org/topics/military-doctrine.html>.

optimally employ existing and emerging technology in an effort to shift the current paradigm of military affairs. The Army emphasizes the integration of emerging technological capabilities, and sees this as a “fundamental function for ARCIC. It involves bringing together Soldiers with the right equipment and training at the right place and time.”¹⁴⁰ ARCIC and other organizations, including the Army Test and Evaluation Command, that test new capabilities underscore the Army’s commitment and capacity to innovate and integrate existing and emerging technologies into current tactics, techniques and procedures. This is a gradualist approach to transformation that, while consistent with the national logical analytical cognitive process, is unsupportive of an RMA.

The Army’s recent counterinsurgency war experiences will continue to determine future innovation and organization even in the face of discontinuity (e.g., the emergence of conventional near peer adversaries such as Russia and China). This is similar to the interwar era in which World War I experiences strongly influenced Army thought and change. Recently, Lieutenant General Herbert R. McMaster of the Army Capabilities Integration Center observed that “what’s going to be really important for the Army and for our military in general, is what we’ve learned from the past...years of war. We need to use what we’ve learned to make a grounded projection into the near future and to inform our understanding of the problem of future armed conflict.”¹⁴¹

Such was not the case post-Vietnam because the Army had a standing conventional threat to address in the Soviet Union that shaped its doctrinal refocus. This spurred the development of the *Big Five Systems* (the M1A1 Abrams tank, the M2 Bradley Fighting Vehicle, the Apache Attack Helicopter, the Blackhawk Helicopter, and the Patriot Missile system) and major organizational changes (the better educated all-volunteer force, and Air-Land Battle doctrine) in the 1980s to realize what is widely considered the RMA in the 1991 Persian Gulf war. Grounded future projections based on

¹⁴⁰ Army Capabilities Integration Center, “What is DOTMLPF,” accessed October 30, 2014, <http://www.arcic.army.mil/AboutARCIC/dotmlpf.aspx>.

¹⁴¹ Andrew Erdman, “How militaries learn and adapt: An interview with Major General H. R. McMaster,” *Mckinsey and Company*, April 2013, http://www.mckinsey.com/insights/public_sector/how_militaries_learn_and_adapt.

past experiences narrow the scope of organizational and doctrinal development involving existing and emerging technologies (such as drones and cyber capabilities) to counterinsurgency wars much like they limited the development of combined arms doctrine in the interwar period and relegated tanks to the World War I paradigm of crawling behind infantry in mostly defensive warfare.

Though traditionally resistant to bold doctrinal change, the Army has made great strides in the way it trains troops. Training doctrine has evolved on a micro (tactical) level to produce training concepts like the Combat Applications Training Course (CATC) and the Adaptive Leaders Methodology (ALM) that support the RMA process. These concepts emphasize discovery learning through problem solving early in a Soldier's career. These concepts help produce adaptive Army leaders that are more disposed to support experimentation with new and existing technologies and ways to better employ them. Since experimentation is a key element of organizational change—a critical component in the RMA process—one can deduce that some current training approaches in the U.S. Army are supportive of the RMA process because they foster initiative and technical experimentation.

In summary, on a macro level U.S. Army doctrine in the contemporary period discourages bold doctrinal and organizational experimentation with concepts outside the construct of counterinsurgency warfare. For example, despite the recent strategic rebalance to the Asia-Pacific—arguably the earth's largest expanse of non-contiguous land mass (thousands of islands and peninsula landmasses)—the nation's largest land force has yet to mitigate its inability to conduct conventional amphibious operations. The U.S. Army's limitation to conventional ground and airborne maneuver may prove problematic in the Pacific given the non-contiguous geography of the region, and the proliferation of surface to air missile technology. According to the U.S. Department of State, "MANPADs, shoulder-fired surface-to-air missiles, in the hands of criminals, terrorists, and other non-state actors pose a serious threat to...military aircraft around the

world.”¹⁴² The small size of the United States Marine Corps relative to the size of the Asia-Pacific region, and the capabilities of a “near peer” rival like China will make the Army’s amphibious maneuver limitation even more disquieting. This situation is reminiscent of the previously discussed concerns of Army Lieutenant General Trudeau during the interwar period about the need to develop amphibious capability to deal with the possibility of someday having to fight against the growing aggression of Japan in the Pacific.

2. Army Organization, Change and the RMA in the Contemporary Period

The U.S. Joint Capabilities Integration and Development System (JCIDS) manual defines organization as a “unit or element enabled by a structure through which individuals cooperate systematically to accomplish a common mission.”¹⁴³ The Army adopted a more modular organization (agile Brigade Combat Teams with organic support formations) which proved better suited for the counterinsurgency campaigns in Iraq and Afghanistan than the previous division-centric organization. According to Stuart E. Johnson and his co-authors, “the current force structure features superior versatility relative to the division-centric structure. This superior versatility is a result of the fact that...the BCTs are generally better armed and staffed than the units they superseded.”¹⁴⁴

The success of modularization in the Iraq and Afghanistan campaigns and shrinking budgets dissuade the Army from boldly experimenting with new organizational concepts using existing and new technologies. Johnson and his co-authors concur that “by organizing a total of 73 BCTs with supporting structure, the modular force will have a reservoir adequate to cope with today’s wars, and operations that could reasonably arise

¹⁴² Office of Weapons Removal and Abatement, “Manpads: Combating the Threat to Global Aviation from Man-Portable Air Defense Systems 2nd ed,” U.S. Department of State, July 31, 2008, <http://2001-2009.state.gov/t/pm/rls/fs/107632.htm>.

¹⁴³ U.S. Joint Staff, *Joint Capabilities and Integration Development System Manual*, Washington, DC: The Joint Staff, 19 January 2012, <https://acc.dau.mil/adl/en-US/267116/file/41245/JCIDS%20Manual%20-%2019%20Jan%202012.pdf>, A-5.

¹⁴⁴ Stuart E. Johnson et al., “A Review of The Army’s Modular Force Structure,” RAND Corporation, 2012, http://www.rand.org/pubs/technical_reports/TR927-2.html, 35.

in the future.”¹⁴⁵ Although the need for a modular BCT concept had been recognized since 1990, it took that decade and the force deployment demands of the Afghanistan and Iraq campaigns to begin testing and implementation—a testament to the Army’s resistance to bold organizational change reinforced by Congressional parsimony (Clinton administration force and budget reductions). Johnston and his co-authors wrote that “the Army recognized that change was needed to face the realities of the new [post-Cold War] security environment. This recognition began the transformation process. The Army Chiefs of Staff, from General Gordon R. Sullivan to General Schoomaker, all recognized the need to adapt. Modularity did not come about in isolation. It was part of a process that began in the early 1990s.”¹⁴⁶

Some might contend that the Army is experimenting with new organizations, and cite the 2010 activation of U.S. Army Cyber Command to conduct operations in cyber space as evidence of the Army’s evolving culture of organizational experimentation and change in the contemporary period. This organizational change—like most in the Army—was not, however, the result of bold experimentation with cyber technology and new organizational concepts but an overdue part of a national response to increasing and alarmingly successful foreign attacks against the United States in cyberspace. According to former Secretary of Defense Robert Gates, he created Cyber Command because the “Department of Defense was not well organized internally to deal with cyber issues” and after its creation “he felt reasonably comfortable that Defense Department cyber networks were protected, even though they were attacked by hackers many times a day.”¹⁴⁷

3. Army Materiel, Change and the RMA in the Contemporary Period

As mentioned earlier, Army materiel and acquisition policies are shaped by the national strategic culture and the organizational culture of the Army. Army materiel

¹⁴⁵ Stuart E. Johnson et al., “A Review Of The Army’s Modular Force Structure,” RAND Corporation, 2012, http://www.rand.org/pubs/technical_reports/TR927-2.html, 39.

¹⁴⁶ Johnson et al., “A Review of the Army’s Modular Force Structure,” 35.

¹⁴⁷ Robert M. Gates, *Duty: Memoirs of a Secretary at War* (New York: Alfred A. Knopf, 2014) 449–450.

development in the contemporary period is hindered by America's strategic tradition of post-war Army drawdown, and a general strategic tradition of expanding the Army when needed. Despite the Army's demonstrated importance in securing the nation's strategic interests in an increasingly complex strategic environment, Congress has mandated significant cuts in force levels and budgets that continue to hinder materiel development, research and acquisition. The earlier mentioned cancellation of the Army's Ground Combat Vehicle program due to funding shortfalls is an example.

Congressionally mandated cuts and the Army's institutional preference for what it develops and procures are driven to a considerable extent by strategic assumptions. Some scholars claim that nuclear weapons limit the usefulness of military action against the powerful nuclear states in the world, reducing the chance of another World War.¹⁴⁸ According to this viewpoint, due to the presence of nuclear weapons the U.S. Army is highly unlikely to fight the forces of a near peer adversary, and based on the last decade of war, counterinsurgencies are what the Army is most likely to fight. Thus, in the contemporary period, the Army predominantly plans and equips to fight modern counterinsurgencies and limited duration operations. This planning assumption is reminiscent of the interwar era approach—to man and equip the Army to put down counterinsurgencies like the Philippine rebellion in the 1890s, and rapidly deploy for limited operations like the 1917 Pancho Villa Punitive Expedition. This modest set of expectations about future war requirements largely focuses materiel development and procurement on the systems seen as the most effective for it—for example, the light Stryker vehicle. According to the 2014 Army Equipment Modernization Plan, the army invested approximately \$49.9 million of its Research Development, Test and Evaluation (RDTE) funds in Stryker enhancement compared to \$12 million and \$10.9 million RDTE investment in the RQ-7B Shadow and MQ-1C Predator drones.¹⁴⁹ Much as tanks required greater investment in the United States than was given to realize their potential during much of the interwar period, it appears that emerging drone and robotics

¹⁴⁸ Winslow T. Wheeler, *America's Defense Meltdown: Pentagon Reform for President Obama and the New Congress* (Stanford, CA: Stanford Security Studies, 2009) xiv.

¹⁴⁹ Headquarters Department of the Army, *Army Equipment Modernization Plan 2014*, Washington, DC: Department of the Army, May 13, 2013, www.g8.army.mil/pdf/AEMP2014_lq.pdf.

technologies are subject to the same sub-optimal investment despite their demonstrated potential for continuous reconnaissance with improved propulsion, and combined arms maneuver with miniaturization and enhanced munitions.

C. CONCLUSION

Based on its analysis of U.S. strategic and Army culture in the contemporary era – from the 2011 withdrawal of U.S. combat forces from Iraq to the present – this chapter concludes that the strategic culture of the United States, viewed through the lens of domestic politics and policymaking institutions, the national way of war, and the use of force and diplomacy, is supportive of maintaining current technological capabilities with limited investment in new technologies while constraining the capacity for organizational experimentation and bold organizational change. The sub-optimal investment in organizational change is due in large part to congressionally mandated force reductions that are part of America’s strategic tradition.

The organizational culture of the U.S. Army in the contemporary period, on the other hand, has evolved considerably since the interwar period. The U.S. Army has become a much more adaptive organization than it was in the interwar era. It promotes the technological experimentation supportive of an RMA, though it is largely unreceptive to bold new organizational concepts. The Army’s doctrinal and organizational construct is tightly aligned to the counterinsurgency campaigns of the last decade to such an extent that it hinders experimentation in light of new strategic priorities (including emerging conventional military rivals such as China and Russia) and stunts the exploitation of drones and robotics technology. Mandatory budget and force reductions originating within the broader strategic and political culture have hampered institutional support and attitudes to experimentation, innovation and change in the organization, methods, and technology necessary for an RMA. In the period since the 2011 withdrawal of U.S. combat troops from Iraq to the present, culture at the national strategic and Army levels has insufficiently supported the changes required for realizing an RMA.

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IV. MANAGING CULTURE TO ACHIEVE AN RMA

It is undeniable that culture is an abstract phenomenon, but its effects are evident and can in some circumstances be harmful. It is therefore incumbent on scholars to seek ways to better manage culture. This chapter of the thesis identifies and studies parallels and developments in U.S. strategic and Army organizational culture in the interwar and contemporary periods. Its goal is to promote understanding of aspects of the strategic and organizational cultures that hinder the technological innovation and bold organizational changes required for paradigmatic shifts in military affairs in America's favor. In other words, the chapter looks at strategic and Army culture in the interwar and contemporary periods for ways to manage cultural factors so that they favor realizing an RMA.

A. MANAGING STRATEGIC CULTURE TO ACHIEVE AN RMA

The RMA process gains from the growing realization in American domestic politics that as a leading force for global stability America must maintain its armed forces at a level of readiness (including manning, training and equipment) commensurate with its global strategic interests and commitments in an international environment of persistent conflict and crisis. This reality clashes with the traditional U.S. strategic culture of drastic post-conflict reductions in forces and funding of the U.S. Army and its sister services. This traditional pattern hinders the realization of an RMA.

1. U.S. Politics, Defense Policy and the RMA

Congress continues to play a decisive role in determining the availability or lack of financial resources critical to the factors (doctrine, organization, and technology) of an RMA. Army and other military leaders in the Department of Defense seeking to change the tradition of drastic force and funding cuts in an era of persistent conflict should therefore focus on sensitizing Congress to the harmfulness of this strategic cultural practice. As previously explained, this tradition originated in a visceral seventeenth and eighteenth century distrust of large standing armies, which is reflected in the United States Constitution. During the interwar period, consistent with the national strategic culture, leaders in the War Department reinforced the notion that America did not need a

large standing army to protect its national interests despite the continued extensive U.S. engagement in the Pacific (including the Philippines) and to a lesser extent Europe. As Army Chief of Staff, General Pershing's recommendation to Congress facilitated Army force and budget cuts, as well as the dissolution of the Tank Corps that was developing combined arms maneuver doctrine under Patton and Eisenhower. In the contemporary period Army and Department of Defense officials have cautioned against force and funding cuts in what is clearly a countercultural effort to preserve resources, forces and Army institutions—critical factors for realizing an RMA. Though this countercultural effort is proving weaker than the centuries-old American strategic culture of post-war force reductions, it will grow stronger if the services continue to promote public awareness of the fact that America's role in the world is far more complex and substantial than its strategic tradition of post-war military reduction recognizes. The United States should therefore maintain a robust military force capable of defending its interests in a timely manner in multiple areas of the globe.

American support and commitment to regional stability in the Middle East, U.S. security obligations in the Asia-Pacific, and NATO preparedness in Europe demand and mandate change in the strategic culture of post-war parsimony to the military. Today, congressionally mandated defense budget reductions endorsed by the president have further reduced the United States' ability to provide standing forces in support of collective defense for NATO allies in Eastern Europe.

In trying to meet collective defense obligations in Europe amid traditional postwar defense spending cuts, the Obama administration rotates U.S. Army forces through Western Europe. Some NATO members, particularly in Eastern Europe, see U.S. rotational presence as an insufficient contribution to conventional deterrence and defense. Their views are understandable in light of an increasingly belligerent Russia. For example, General Mieczyslaw Cieniuch, Chief of the General Staff of the Polish Armed Forces, stated in 2012 that his country was “not very happy that the U.S. military

involvement in Europe will be smaller than today's, especially from the Polish point of view, because we are a border country of the [NATO] alliance."¹⁵⁰

Additionally, U.S. defense budget cuts reduce the funding available for the NATO operations that the United States is willing to undertake. Leon Panetta, then the Secretary of Defense, warned alliance members in 2011 about the implications of the impending defense budget cuts, stating that while “many might assume that the United States defense budget is so large it can absorb and cover alliance shortcomings—make no mistake about it, we are facing dramatic cuts with real implications for alliance capability.”¹⁵¹ America's tradition of postwar reduction of its armed forces—particularly the Army, as mentioned earlier—currently reinforced by the absence of a major hostile peer adversary like the Soviet Union was during the Cold War, reduces the forces and materiel the United States can contribute in support of NATO, and by the same token leverage in pursuit of an RMA. Secretary Panetta acknowledged this in calling for greater investment from other NATO members in light of pending U.S. defense reductions in 2011. Panetta alluded to the American strategic cultural practice of dramatic postwar force reductions. He warned NATO members that the “immediate ‘hollowing-out’ of troops in the aftermath of a major operation has had unfortunate circumstances. After World War One, after World War Two, after Korea, after Vietnam, after the fall of the Iron Curtain, we made the mistake of hollowing out our forces. That cannot happen again.”¹⁵²

Unlike during the interwar period, Army and other military service and civilian leaders in the Department of Defense today draw attention to the growing gap between America's strategic ends and objectives and the military means to realize them. This counterculture effort can be seen in recent statements by some leaders in the Department

¹⁵⁰ Marcus Weisgerber, “In Europe, Mixed Feelings about U.S. Troop Cuts,” *Defense News*, January 16, 2012, in *NATO's Balancing Act*, David S. Yost (Washington, DC: United States Institute of Peace, 2014), 353.

¹⁵¹ Leon Panetta, “Panetta warns NATO of devastating cuts,” *Russia Today*, October 05, 2011, <http://103.5.149.34/usa/panetta-nato-us-united-165/>.

¹⁵² Panetta, “Panetta warns NATO of devastating cuts.”

of Defense. For example, General Raymond Odierno, the current U.S. Army Chief of Staff, recently stated that

Today we have Soldiers deployed on every continent except Antarctica. We have Soldiers doing important missions in the security environment around the world. Frankly it is probably increasing in instability, which is requiring Army Forces to deploy to different places simultaneously. We are doing this while we continue to downsize the Army and take risks in modernization and readiness, and frankly I am starting to worry about our end strength.¹⁵³

Defense leaders should continue sensitizing Congress, the public and the presidential administration on the disparity between resources (funding and forces) for capability and U.S. security strategy and foreign policy objectives. The short and long term effects of continuing this disparity could be grave. Accurate strategic net assessments constitute a good tool for sensitizing key congressional leaders to the gap between American strategic ends and means. Contrary to General Pershing's previously noted reluctance to preserve Army end strength (quantity of forces) adequate to defend U.S. interests in the Pacific and funding to support doctrinal and technological innovation, today's Army and Department of Defense leaders are vigorous in sensitizing the nation and its civilian leaders to the harmful effects of an outmoded and rather anachronistic national strategic culture that shortsightedly reduces the military means to defend the highly evolved modern interests of a superpower.

2. The American Way of War

The RMA process of force transformation stands to benefit in the contemporary era of persistent conflict as Americans reluctantly but increasingly learn to appreciate that the rather anachronistic construct of war as an anomaly to be decisively dispatched followed by the swift retirement of the tools and institutions of war is not well suited to the modern challenge of persistent complex wars. In other words, the American Way of War that has been part of the nation's strategic culture since its founding is not only harmful to the RMA process because it hinders the flow of necessary resources, but it is

¹⁵³ Raymond Odierno, "SecArmy, CSA statement/answers at AUSA Annual Meeting Opening Press Conference," U.S. Army, October 13, 2014, <http://www.army.mil/article/136086/>.

also proving increasingly problematic and incompatible with America's role as a global leader and stabilizing influence in the international system. Though the United States managed to shrink from this role in the interwar period in favor of isolationism and military cutbacks, it has since World War II embraced its responsibilities as a stabilizing force in the international system. During the Cold War the steady stream of resources and forces made available to the military and the Army in particular favored the RMA process, leading to the development of doctrine and technology (Air Land Battle and the previously mentioned 'Big 5' systems: M1 Abrams tank, M2 Bradley Fighting Vehicle, Patriot Missile, Blackhawk and Apache Helicopter) that changed the paradigm of maneuver warfare in the 1991 Persian Gulf War.

In the contemporary era of persistent threats and conflicts, the American Way of mobilizing and demobilizing resources in response to conflict is problematic for the realization of an RMA. Preserving America's global strategic role and honoring its commitments mandate a steady stream of resources and forces—much to the benefit of the RMA process. This is antithetical to the American tradition of cutting forces and military spending between conflicts. This antithesis is evident in the contemporary period; the American Way of War underlies the arguably precipitous termination of the U.S. combat role in the Iraq campaign in 2011, and the hasty troop withdrawal by the Obama administration. War termination approaches of this sort, though consistent with the American Way of War, are incompatible with modern conflicts, which require gradual and phased withdrawals of U.S. troops as host nation forces, political institutions and economic capacity are nurtured to operate independently. The contemporary era is one of complex persistent conflicts that do not lend themselves to decisive resolution by superior overwhelming force of arms but require supplemental economic and political efforts. Contemporary conflicts like those in Iraq and Afghanistan require long term national commitment, and the application of all the instruments of national power—diplomatic, intelligence, military and economic—for lasting resolution. Cutting the resources and forces of the military, particularly the Army, at a point prematurely construed as the end of a conflict may have the unintended consequence of renewing hostilities and creating a need to recommit already reduced forces, not to mention the

obvious hindrance to the RMA process. The recent U.S. recommitment of forces amid ongoing force reductions to fight the emergent Islamic State in Iraq and Syria (ISIS) in Iraq is an example of this syndrome, which gravely worries informed military and civilian defense officials.

The American Way of War is proving incompatible with America's contemporary strategic role and interests and hindering the RMA process at a time when U.S. military technological superiority is challenged by multiple states and circumvented by non-state adversaries. America's long standing way of war will continue to evolve as it interacts with modern strategic challenges. However, military and Army leaders in particular can shape the evolution of the American Way of War by normalizing the practice of sensitizing political leaders and the public on the real imbalances and disparities between Army capabilities and national strategic interests. As Army Secretary John McHugh has said, "we need, as an Army, to just continue to reinforce the reality of the issues so that as the overseers on Capitol Hill continue to look at the problem they can find a way to enact their positions into a final policy."¹⁵⁴

3. Force and Diplomacy in U.S. Foreign Policy and the RMA

Presidential preferences concerning the use of force in relation to diplomacy are critical for the resources required for an RMA. These preferences vary in each individual who occupies the Oval Office—as the examination in Chapter II of interwar era presidents indicates—so it is impossible to predict the operational code of the next president. A way for Army leaders to manage this highly variable yet critical part of American strategic culture is to understand the foreign policy goals and *operational code* of incoming presidents, and vigorously inform them and their teams regarding the Army's roles and capabilities in achieving U.S. strategic objectives—taking care to highlight capability gaps. In other words, Army and other defense leaders should vigorously seek to shape the operational code of new presidential administrations and orient them as to the capabilities of the military services as foreign and security policy

¹⁵⁴ John McHugh, "SecArmy, CSA statement/answers at AUSA Annual Meeting Opening Press Conference," U.S. Army, October 13, 2014, <http://www.army.mil/article/136086/>.

tools consistent with their operational code. Secretary McHugh's statement above captures the essence of this alternative in influencing and informing not just presidential but also Congressional perceptions of the value of preparing, maintaining and employing the Army and the other military services as instruments of power.

4. The National Cognitive Style and the RMA

Army and Department of Defense leaders today can support the RMA process by encouraging greater attention to holistic dialectical approaches to doctrinal and organizational experimentation with existing and emerging technologies. This aspect of American strategic culture is perhaps the hardest to manage because it is an inherent part of the psychological makeup—the cognitive process—of America's prevalent and historically dominant Anglo-Saxon heritage. It is probable that even naturalized Americans from cultures with a holistic dialectical cognitive process assimilate the Anglo-Saxon originated logical analytical cognitive process.

The logical analytical cognitive process is evident in the Army's preferred use of the term *transformation* to refer to gradual changes in military affairs within the existing paradigm rather than to acknowledge the theoretical and manifested paradigmatic shifts championed by RMA proponents. Incremental changes in technology within the current methods of force employment and organization are more acceptable to the nation's leaders and the Army leadership than changes in technology, doctrine and organization that fundamentally change the paradigm of military affairs. This, however, does not mean the latter cannot happen; Army leaders should try to strike a balance between favoring continuities in certain areas of military affairs and being open to new methods and organizations employing existing and new technologies in those same areas. A tendency to overlook continuities in certain areas of military affairs can have strategically problematic consequences. In Iraq, for example, age-old counterinsurgency tactics (hit and run attacks) frustrated the U.S. military's high tech capabilities that had prevailed in the 1991 Operation Desert Storm. As Lieutenant General H.R. McMaster, commander of the Army's Capability Integration Center, has observed, "many of the recent difficulties we have encountered in strategic decision-making, operational planning, and force

development have stemmed, at least in part, from the neglect of critical continuities in the nature of war.”¹⁵⁵

Contrastingly, an institutional tendency to overlook, dismiss and even hinder the RMA process based on the lack of relevance of a conventional paradigm shift to the unconventional warfare aspect of military affairs or vice versa can replicate operational and tactical disadvantages in conventional warfare akin to the U.S. Army’s experience in World War II with opponents using better technology, organization and methods. Large-scale conventional wars may appear to be a thing of the past, as it seemed to many Americans after the “War to End all Wars” (World War I), but judging from history and human nature that may hardly be the case, so the Army should still pursue the RMA process and seek a paradigm shift relevant to current and future conventional war challenges.

B. MANAGING ARMY CULTURE IN PURSUIT OF AN RMA

Going forward, Army leaders can seek ways to make the organizational culture of the U.S. Army more open to experimenting and implementing bold organizational changes and methods of employing existing and emerging technologies in diverse types of warfare. In other words, Army leaders should remain open to the idea that changes in organization and methods coupled with new and existing technologies can shift the paradigm, not necessarily across the entire breadth of military affairs but in specific areas such as counterinsurgency and conventional war. Such openness is more conducive to the RMA process than critical arguments based on a faulty understanding of the RMA and an anachronistic affinity for current paradigms preserved in the name of continuity. Interestingly, France’s rather anachronistic focus on preparing for future defensive warfare in the interwar era can be regarded as a pragmatic appreciation for continuity in the World War I style of conventional warfare, despite the obvious contemporary changes in technology, organizations and methods of the era (including airplanes, radio communications, tanks and combined arms maneuver).

¹⁵⁵ Lieutenant General H.R. McMaster, “Studying War and Warfare,” War Council, 26 October, 2014, <http://www.warcouncil.org/blog/2014/1/11/studying-war-and-warfare-by-major-general-hr-mcmaster>.

As previously explained, the Army has come a long way since the interwar era in terms of learning and modernization. There is ample proof today that the Army is a learning organization that is geared to technological innovation and modernization. Organizationally the Army is still extremely resistant to bold doctrinal and organizational experimentation based on existing and emerging technologies. There seems to be a prevailing institutional skepticism of the latter akin to that in the interwar era. Referring to the RMA, Army Lieutenant General McMaster recommended that military “professionals...be skeptical of ideas and concepts that divorce war from its political nature and...promise fast, cheap, and efficient victories through the application of advanced military technologies.” McMaster premised his institutional call for skepticism of the RMA on the argument that “advocates of the ‘Revolution in Military Affairs’ (RMA) predicted that advances in surveillance, communications and information technologies, along with precision strike weapons, would overwhelm any opponent, [yet] experience in Afghanistan and Iraq revealed the flawed nature of this thinking.”¹⁵⁶

Institutional skepticism and aversion to the RMA based on a misinterpretation of the concept as a fantastical tactical and operational elixir for strategic challenges are inimical to the RMA process. Army leaders can cultivate a culture supportive of the RMA process by understanding the latter as a means of gaining and maintaining a tactical and operational advantage in selective aspects of military affairs supportive of attainable strategic objectives.

While keeping an eye to valid continuities in different types of warfare Army leaders should aspire to bold experimentation with organization, methods and technology in search of paradigmatic shifts in designated areas of military affairs (including conventional, unconventional, humanitarian/disaster relief, peacekeeping and peace enforcement operations). This aspiration should be tempered with the understanding that a paradigmatic shift in one area of military affairs (for example, conventional warfare) may not necessarily apply to counterinsurgency warfare; moreover, the paradigm shift of an RMA does not invalidate or remedy the challenges of visceral continuities in war such

¹⁵⁶ H.R. McMaster, “Studying War and Warfare,” War Council, 26 October, 2014, <http://www.warcouncil.org/blog/2014/1/11/studying-war-and-warfare-by-major-general-hr-mcmaster>.

as the human dimension (including its political and socioeconomic aspects). Paradigmatic shifts in aspects of military affairs are desirable and worthy of pursuit because they can provide tactical and operational advantages to help the U.S. armed forces achieve the political objectives defined in national strategy.

V. CONCLUSION

Culture has undoubtedly influenced military affairs throughout history. This thesis has studied the influence of culture on military affairs from the standpoint that the history of warfare can be interpreted as a series of Revolutions in Military Affairs. Defined as a paradigmatic shift in the conduct of military affairs spurred by the confluence of organizational change with new technologies and concepts of operations, the Revolution in Military Affairs inherently contradicts interpretations of the history of warfare as a gradual evolution of technologies and tactics with no paradigmatic shifts. This thesis did not, however, explore this debate.

Instead, this thesis accepted the RMA as a relevant concept in the history of warfare, and explored the complex and powerful influences of American strategic culture and U.S. Army culture on the organizational, doctrinal, technological, funding and other factors vital to the realization of an RMA. The influences of U.S. strategic and Army organizational culture in the interwar period (1919–1941) and the contemporary period (since the 2011 withdrawal of U.S. combat forces from Iraq) have helped highlight useful ways in which U.S. military and civilian leaders can manage cultural factors to change the paradigm of select areas of military affairs in America's favor.

The field of military affairs is extensive. It is therefore possible for certain aspects of the field (perhaps including conventional warfare) to undergo revolutions in tactics, technology and organization that other areas (perhaps including irregular warfare) might withstand. The literature on the RMA and military transformation to date does not fully explain this dynamic. In other words, the different categories of military affairs (including deterrence and peacekeeping) do not seem to feature in the debate and literature on the RMA and military transformation. Proponents of the RMA seem to focus on the more conventional aspects of military affairs, citing conventional wars like the 1991 Persian Gulf War, while critics of the RMA cite irregular or unconventional wars like the Iraq and Afghanistan campaigns of the last decade. Future works on the subject should distinguish the aspect of military affairs in which a paradigmatic shift is being witnessed or pursued with the intermingling of changes in methods and organization

combined with existing and new technologies. This distinction among sub-areas of military affairs will perhaps clarify whether some types of warfare are more susceptible to paradigmatic shifts than others. In other words, conventional war might be more susceptible to paradigmatic shifts (an RMA) than perhaps counterinsurgencies and irregular warfare, whose essence seems to have stood the test of time and technology.

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