DOES MILITARY CULTURE MATTER?

by Williamson Murray

History, with its grim landscape of defeated armies and shattered nations, would certainly suggest that military culture matters.[1] But how and why that is so is not entirely clear. Unfortunately, historians have done little work on the subject, focusing for the most part on more immediate factors such as leadership, doctrine, or training to explain victory or defeat.[2] Even works specifically examining military effectiveness and innovation tend to discuss military culture as a tangential issue.[3] Yet military culture may be the most important factor not only in military effectiveness, but also in the processes involved in military innovation, which is essential to preparing military organizations for the next war.

If military culture does matter, what might an acceptable definition of it be? Military culture represents the ethos and professional attributes, both in terms of experience and intellectual study, that contribute to a common core understanding of the nature of war within military organizations. As Michael Howard has suggested, no other profession is as demanding in physical or mental terms as the profession of arms.[4] In the latter case this is particularly true because military institutions must spend long periods of time *not* engaged in their fundamental purpose—war.

Rather, they must estimate the impact of technological, tactical, operational, and societal changes as they apply to war, without fully testing those conceptions until war occurs. Thus, military organizations can never completely evaluate peacetime innovations and preparation until the audit of war itself, in which fear, chaos, ambiguity, and uncertainty dominate. Military culture thus represents the intellectual and spiritual capacity of the armies, naval forces, and air forces to come to grips with the business of preparing for and executing war.

The difficulty in addressing military culture in a scholarly fashion derives not only from the complexity of the subject, but also from the fact that its influence is almost always the result of long-term factors rarely measurable and often obscure even to historians. What is more, military culture obviously changes over time in response to changes in a society's culture, the advance of technology, and the impact of leadership. As one senior marine has noted, military cultures are like great ocean liners or aircraft carriers: they require an enormous effort to change direction.[5] While those making changes in an institution's value system at times have a clear idea of the results they seek, in most cases they do not, and in any case cannot be assured of achieving the desired results.[6]

The purpose of this essay is to suggest some of the complexities involved in military culture, the historical evidence that demonstrates why military culture is so important, the current cultural framework of the U.S. military, and finally some ideas about how we might think about influencing American military culture in positive directions. The larger purpose is not to suggest answers or solutions, but to think more coherently and intelligently about military culture, past, present, and future. There are no short-term solutions to problems in military culture. Those interested in reforming military culture must recognize instead that reforms, changes in emphasis, or even radical surgery will not yield immediate results. An effective change in military culture can only occur over a period of decades, and it is as likely that unintended effects of reforms on the cultural patterns of an organization may be more significant than intended effects.[7]

[1]This essay originally appeared in *Orbis*, Winter 1999, and arose from the Foreign Policy Research Institute conference "The End of American Military Culture," Philadelphia, Pa., July 15–16, 1998. The views expressed here do not represent those of the U.S. Army, the Department of Defense, or the U.S. Government.

[2]For a graphic account of the differences between military cultures, and of their resulting effects on the battlefield, see Samuel W. Mitcham Jr., *Rommel's Greatest Victory: The Desert Fox and the Fall of Tobruk, 1942* (Novato, Calif.: Presidio Press, 1998). See also Brian Bond, *British Military Policy Between the Two World Wars* (Oxford: Oxford University Press, 1980); MacGregor Knox, *Mussolini Unleashed: Politics and Strategy in Fascist Italy's Last War* (Cambridge: Cambridge University Press, 1982); and particularly Andrew Gordon, *The Rules of the Game: Jutland and British Naval Command* (London: John Murray, 1997).

[3]See Allan R. Millett and Williamson Murray, eds., *Military Effectiveness*, 3 vols. (London: Unwin Hyman, 1988); and Williamson Murray and Allan R. Millett, eds., *Military Innovation in the Interwar Period* (Cambridge: Cambridge University Press, 1996).

[4]See in particular Michael Howard, "The Use and Abuse of Military History," *Journal of the Royal United Services Institute*, Jan. 1962, pp. 4–10.

[5]Lt. Gen. Paul Van Riper, USMC (ret.) to the author in conversation, July 1995.

[6]Changes made in the 1920s to requirements for command positions were intended simply to aid the navy's fledgling aviation community, but as a result, by the late 1930s the navy had become the most aviation-minded in the world. See Barry Watts and Williamson Murray, "Military Innovation in Peacetime," in *Military Innovation*, pp. 383–405.

[7]Along these lines it is the opinion of the author that the efforts at cultural and intel-

The Larger Cultural Framework

As one of the members of this panel suggested, military culture is a coat of many colors. Influencing the culture of military organizations are factors such as history, the professional ethos, geography, the milieu within which that organization operates, recent military experience, and the *Weltanschauung* of the external society. Moreover, even within military organizations there will be separate and distinct subcultures heavily influenced by traditions as well as the mission they perform.[8]

In the largest sense, it is possible to talk about national military styles. The German military possessed a devotion to duty, a seriousness about tactics, and a breathtaking contempt for logistics and intelligence in the two world wars.[9] The reason why German military culture paid so little attention to logistics has much to do with geography. The Germans have always been at the center of military operations throughout the history of European warfare, and Prussia's catastrophe at Jena/Auerstadt in October 1806—whereby a single day's defeat resulted in the collapse of the state—exercised a baleful influence as late as May 1945. The failures of German intelligence are more difficult to understand. They most probably had to do with an overemphasis on tactics and operations, but also with the culture of a society that over the course of two world wars possessed a fundamental belief in the innate racial superiority of the German *Volk*.

On the other hand, the Italian military services, as MacGregor Knox has noted, confronted the fundamental problem of "the Italian general staff tradition: Custoza, Lissa, Adua, Caporetto. On those occasions the military, as yet uncontaminated by contact with Fascism, distinguished itself by the absences of the study, planning, and attention to detail that characterized the Germans. . . ."[10] Admittedly, Italian society at large, particularly the middle class, regarded a military career in the officer corps as worthy of only

the dumbest—in other words those incapable of supporting themselves in some other career. The culture of the officer corps lived up to the expectations of the society. As General Ubaldo Soddu, who was largely responsible for the operational and tactical disaster in Greece, commented about a career in the Italian military, "when you have a fine plate of pasta guaranteed for life, and a little music, you don't need anything more." In October 1940, as his troops were suffering a terrible battering from the Greeks, Soddu would spend his evenings composing musical scores for movies.[11] The results spoke for themselves when the Italian officer corps abdicated its responsibilities and military catastrophe followed. Yet Italian soldiers themselves, badly equipped, and ineptly led, fought far better in North Africa and on the plains of Russia than historians have given them credit for.

Thus, a societal rejection of all things military, as well as a governmental emphasis on its military organizations' protecting the regime from revolution, framed Italian military culture.[12] The German military style reflected a national attitude that took war very seriously—a predilection inspired by the numerous invasions that German states had suffered over the course of centuries. The German navy, however, proved in two world wars that there was nothing innately competent about German military organizations; as a result, one should hesitate before ascribing undue influence to national culture in how service cultures develop.

The United States, of course, has had its own military style— one characterized by heavy emphasis on logistics, overwhelming material superiority, and an inclination to avoid military or political conflict until late in the game. To a great extent this culture also reflects the impact of geography. The United States is a great island nation protected by oceans. Thus, the projection of military power has demanded an emphasis on logistics. Even in the American Civil War, which has exercised such great influence over the general military culture of the U.S. services, Union forces waged a continental war on a scale equivalent to the distances in Europe from Paris to Moscow.[13]

Another major factor in military culture is the generational change that occurs in military organizations as the collective experiences of the senior officer corps evolve with the passage of

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lectual change that Gen. Al Gray set in motion when he was commandant of the Marine Corps in the late 1980s (the creation of the Marine Corps University, the Commandant's Reading List, and FMFM 1 [*Warfighting*], among others) are only now beginning to exert their full impact not only on the senior marine leadership, but also on the larger body of the officer corps of that service.

[8]See Don M. Snider's discussion of military heterogeneity in his essay in this volume.
[9]The basic doctrinal manual for the Luftwaffe, *Die Luftkriegführung* [Waging Air War] (Berlin: n.p., 1966), for example, is a brilliant discussion of the operational and tactical framework within which air war has taken place (far superior to anything the U.S. Air Force has ever produced), but it ends with the note that sections on logistics and intelligence had yet to be written. They were never written, and the Luftwaffe's performance in World War II lived up to its sister services' appalling performance in those areas.
[10]MacGregor Knox, *Mussolini Unleashed*, p. 16.

[11]Ibid., p. 57.
[12]The *Carabinieri*, Italy's militarized police, have been regarded as the elite formation of the Italian military, a sure indication of the emphasis on the military's internal role over its external one.
[13]See Williamson Murray, "Why Did It Take the North So Long?" *Military History Quarterly*, Summer 1989, pp. 24–33.

time. Such a change has been occurring in the American military over the past decade, as the Vietnam War generation has reached retirement.[14] When such change in the collective experiences of the officer corps occurs, officers come to view the world differently. Similarly, the U.S. Army, which so heavily focused on defense of West Germany's Fulda Gap from 1973 through the end of the Cold War, will only fully adapt to the military problems raised by the new strategic environment when those officers whose Weltanschauung was so heavily framed by European experience have retired.

It is almost impossible to change the larger cultural and geographic framework within which military organizations operate.[15] The United States will always confront the problem of projecting military power across the world's oceans, hence a focus on logistics will remain a dominant theme in the culture of U.S. services. Nevertheless, if one cannot change this larger framework, except perhaps as societal and political changes work their influence over decades, one certainly needs to remain aware of the peculiar circumstances that frame the larger military culture—particularly if one is interested in the issue of military reform.

Military Cultures in the Past

Historians have correctly judged the German victory on the banks of the Meuse in May 1940 as one of the crucial events in the history of the twentieth century. That victory enabled the Germans to overcome their considerable strategic weaknesses and in effect to fight the great world war that lasted until 1945.[16] That war, in turn, terminated the period of European imperialism and led inevitably to the Cold War. Yet the military capabilities that enabled the Germans to win in 1940 resulted not from revolutionary changes occurring in the 1930s, but rather from fundamental changes in the German military's organizational culture that had occurred during the early 1920s, when Hans von Seeckt, the first chief of staff and in 1920 commander in chief of the Reichswehr, altered the cultural patterns of the German officer corps as a whole. Faced with the task of reducing the German army's officer

corps from more than 20,000 officers to the limit set by the Treaty of Versailles, Seeckt turned the officer corps over to the control of the great general staff.[17] By so doing he deselected important constituencies, namely the Junker aristocracy and *Frontsoldaten*. The effect was to infuse the whole army with the cultural attributes of the general staff: the hallmarks of the new German army were systematic, thorough analysis; a willingness to grapple with what was really happening on the battlefield; and a rigorous selection process that emphasized officers' intellectual attainments—in a professional sense—as well as their performance in leadership positions.

Along with this emphasis, Seeckt appointed no fewer than fifty-seven different committees to study the lessons of World War I. This thorough, complete study of the last war stands in stark contrast to the experience of the British army, which failed to establish a single committee to study the lessons of that war until 1932, more than a decade after the Germans. Even then, the chief of the British imperial general staff had the report rewritten to cast a more favorable light on the army's wartime performance. The Germans built on the work of Seeckt's committees to fashion a coherent, combined arms doctrine; by 1923 the German army was well on the way to inventing the Blitzkrieg.[18]

In 1932 two of the Reichswehr's most respected generals, Werner von Fritsch and Ludwig Beck, rewrote the German army's basic doctrinal manual, *Die Truppenführung* (Troop Leadership), which served as the basis for the combined-arms battle doctrine with which the Germans fought the Second World War. The opening paragraphs of that manual encompassed the fundamental cultural assumptions of the German army:

> 1. The conduct of war is an art, depending upon free, creative activity, scientifically grounded. It makes the highest demands on individuals.
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> 2. The conduct of war is based on continuous development. New means of warfare call forth ever changing employment. . . .
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> 3. Situations in war are of unlimited variety. They change often and suddenly and are rarely discernible at an early point. Incalculable ele-

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[14]See Williamson Murray, "Computers In, Clausewitz Out," *National Interest*, Summer 1997, pp. 57–64.

[15]Perhaps an experience such as catastrophe can result in great change in the culture of military organizations, as occurred in Germany in 1945, but one suspects such a change reflected the changes in the larger political culture of German society after the war.

[16]See Williamson Murray, *The Change in the European Balance of Power, 1938–1939: The Path to Ruin* (Princeton, N.J.: Princeton University Press, 1984), chap. 1.

[17]While the general staff tradition had played a major role in the German army's inventing of modern war between 1916 and 1918, it remained a subculture within the army until 1920. See Timothy Lupfer, *The Dynamics of Doctrine: The Changes in German Tactical Doctrine During the First World War* (Fort Leavenworth, Kans.: Government Printing Office, 1981); and Martin Samuels, *Command or Control? Command, Training and Tactics in the British and German Armies, 1888–1918* (London: Frank Cass, 1995).

[18]James S. Corum, *The Roots of Blitzkrieg: Hans von Seeckt and German Military Reform* (Lawrence, Kans.: University of Kansas Press, 1992), especially chap. 4; Williamson Murray, "Armored Warfare," in *Military Innovation*, p. 20.

ments are often of great influence. The independent will of the enemy is pitted against ours. Frictions and mistakes are an every day occurrence.[19]

Fritsch and Beck would assume control of the German army soon after Hitler came to power, and held responsibility for developing the qualities that made that army such a formidable fighting instrument in the coming war.

Throughout the 1920s and 1930s, German army culture demanded not only high standards in terms of troop leadership but also serious study of the profession of arms. The case of Erwin Rommel suggests how widespread was this culture of serious intellectual preparation of the officer corps. If ever there was a "muddy boots combat soldier," it was Rommel, yet he not only avidly devoured books, he wrote them. His *Infantrie Greift An* (Infantry Attacks) is one of the great classics in the literature of war.[20]

Historians have often suggested that armies study only the last war and that is why they do badly in the next. In fact, as the above suggests, there are few military organizations that possess a culture that encourages the study of even the recent past with any thoroughness. Most military organizations quickly develop myths that allow escape from unpleasant truths; such was the case with the French army in the immediate aftermath of World War I.[21] And in some cases military cultures reject the past as having no relevance to the future of war. Air forces have been particularly attracted to a technological culture that holds that even the study of recent military experience is of limited use in preparing for a revolutionary technological future.[22]

Such military cultures tend to mold the evidence to support the view of those at the top. The French army in the interwar years, along with the U.S. Army Air Corps and the Royal Air Force during the same period, was particularly prone to making evidence fit

its theory. Such cultures are also intolerant of any kind of dissent from the "official" view. Moreover, with a hard, unyielding view of war, such military cultures have proven resistant to adapting to the actual conditions of war.[23] In peacetime they tend to follow a preconceived trail that will even reject technological possibilities as impossible if they do not fit dogmatic notions of what war will look like.[24]

In other words it has often taken defeat to force substantive adaptation to the actual conditions of war. The less willing a culture is to display flexibility in peacetime, the more likely it is to have difficulty in adapting to the real conditions of war. There is a consistent historical pattern of military organizations' attempting to impose their prewar concepts of future combat on the actual conditions of war instead of adapting to those conditions. In the case of the French army in World War II, the resulting defeat could only be reversed by the intervention of other powers. The serious losses suffered by the Eighth Air Force in summer 1943 were not sufficient to derail the Combined Bomber Offensive. But it is worth noting that it took catastrophic losses on two missions against the ball bearing factories in Schweinfurt (August and October 1943) before the Eighth Air Force leadership finally recognized that unescorted bomber formations, as prescribed in prewar doctrine, were simply incapable of fighting their way through the ferocious opposition of the fighter planes thrown up by the Luftwaffe.[25]

The history of the U.S. military services likewise suggests the strengths and weaknesses of a democratic system of civil-military relations. Accustomed usually to minimal civilian support, the American military endured a glacial promotion system that kept officers in the same grade for interminable periods of time. On the other hand, the performance of U.S. military institutions in World War II suggests that Martin van Creveld's view that the American officer system was entirely deficient in comparison to the German

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[19]*Troop Leadership,* trans. of *Die Truppenführung* (Washington, D.C.: U.S. War Department, 1936 [1933]), p. 1.

[20]A recent biography of Rommel, Sir David Fraser's *Knights Cross: A Life of Field Marshal Erwin Rommel* (London: Harper Collins, 1993), underlines the extraordinary interest and effort that Rommel devoted to the study of military history and his profession.

[21]See in particular Robert Doughty, *Seeds of Disaster: The Development of French Army Doctrine, 1919–1939* (Hamden, Conn.: Shoe String Press, 1985).

[22]The Royal Air Force's air staff explicitly stated in 1924 that an air force can "either bomb military objectives in populated areas from the beginning of the war, with the objective of obtaining a decision by moral effect . . . or, alternatively, they can be used in the first instance to attack enemy aerodromes with the aim to gain some measure of air superiority. . . . The latter alternative is the method which the lessons of military history seem to recommend, but the air staff are convinced that the former is the correct one." Public Record Office AIR 20/40, Air Staff Memorandum no. 11A, Mar. 1924.

[23]Andrew Krepinevich's *The Army in Vietnam* (Baltimore, Md.: Johns Hopkins University Press, 1986) underlines the unwillingness of the U.S. Army to change its paradigm in accordance with the actual conditions of war in Southeast Asia. Timothy Travers, in his *The Killing Ground: The British Army, the Western Front and the Emergence of Modern Warfare, 1900–1918* (London: Allen and Unwin, 1987), is also particularly good on the similar inability of the British high command in World War I to adapt to the real conditions of war.

[24]Even as late as 1941 the senior leadership of the RAF was arguing that a long-range escort fighter was technologically impossible. Sir Charles Webster and Noble Frankland, *The Strategic Air Offensive Against Germany,* vol. 1, *Preparations* (London: HMSO, 1961), p. 177.

[25]For a discussion of the air battles of 1943, see Williamson Murray, *Luftwaffe* (Baltimore, Md.: Nautical and Aviation Press, 1985), chaps. 5 and 6.

one has considerable flaws.[26] Thus, recent historical works have judged the U.S. Army's performance in World War II, particularly against the Germans, far more favorably than was the case a decade ago.[27] U.S. Army formations proved adaptable, flexible, and increasingly combat effective from 1943 on.[28] Moreover, whatever the difficulties in 1942 and early 1943, one needs to remember that American rearmament began late in comparison to that of Nazi Germany, while U.S. forces were committed to battle almost immediately. Rearmament of the U.S. Navy began in 1938, but that of the army only in July 1940 in response to the catastrophe in France. Thus, hastily prepared U.S. ground forces found themselves in combat with the Japanese in the Pacific in summer 1942 and with German forces in North Africa in November 1942. In contrast, the German army did not find itself in combat until September 1939—six and a half years after Hitler had embarked on a massive program of rearmament. The desperate fears the German army's leadership felt about the remilitarization of the Rhineland in March 1936 suggest how little prepared that army was after its first three years of rearmament.

Throughout the interwar period, the culture of the American military appears to have been open to serious thinking about the profession of arms. In the aftermath of World War I the American Expeditionary Force (AEF) headquarters established twenty separate boards to examine the lessons of the last war. Then a group led by some of the army's most respected officers produced a final report drawing from the reports of the twenty boards.[29] That analysis played a major role in the codification of a new basic doctrinal manual, *Field Service Regulations*, in 1923. Far more than was the case with the British, the Americans made a considerable effort to come to grips with the harsh lessons of the Western Front. The new doctrine displayed some influence of the French top-down approach to war, but German experiences also influenced American thinking.[30] In fact, both influences are still evident today, in the form of a top-down mechanistic emphasis on distant firepower (the French influence) and the emphasis on maneuver warfare (the German approach).

The emphasis that professional military education received throughout the interwar period in the United States also suggests a military culture that placed considerable emphasis on the preparation of officers for the serious business of war. Unlike its German and British counterparts, the U.S. Army developed a two-tier approach to professional military education, the Command and General Staff College at Fort Leavenworth, Kansas, and the Army War College in Washington, D.C.[31] The navy had its own war college, while the marines' school at Quantico, Virginia, and the Air Corps Tactical School at Maxwell Air Force Base, Alabama, provided substantial input into the innovations that contributed so much to the American victory in World War II. Equally important from the army's point of view were the branch schools, particularly the Infantry School at Fort Benning, Georgia. Under the leadership of George C. Marshall a whole generation of army officers received a first-rate education in thinking about war, as well as being judged by the cold blue eyes of the army's future chief of staff.

The respect with which the U.S. military's leadership regarded tours on the faculty of such schools suggests how seriously it took professional military education. The future admiral Raymond Spruance served not one but two tours on the faculty of the Naval War College at Newport, Rhode Island.[32] Richmond Kelly Turner, who played a commanding role in amphibious warfare in the Pacific, and John Reeves, a key aviation pioneer, also served on the Newport faculty. After the war Admiral Chester Nimitz went so far as to suggest that "I credit the Naval War College for such success [as] I achieved in strategy and tactics in the war."[33] As for the army, out of its seven members, the faculty of the Army War College for the 1939–40 academic year counted Colonel W. H. Simpson and Major J. Lawton Collins; the former would be a three-star commander within four years, while the latter eventually ended his career as the army's chief of staff. The following year Alexander Patch, also to become an army commander in World

[26]See Martin Van Creveld, *Fighting Power: German and U.S. Army Performance, 1939–1945* (Westport, Conn.: Greenwood Press, 1982).

[27]See in particular Michael D. Dobler, *Closing with the Enemy: How GIs Fought the War in Europe, 1944–1945* (Lawrence, Kans.: University of Kansas Press, 1994).

[28]To compare that with the performance of the British army in World War II, see Williamson Murray, "British Military Effectiveness," in *Military Effectiveness*, vol. 3, chap. 3.

[29]William Odom, *After the Trenches: The Transformation of U.S. Army Doctrine, 1918–1939* (College Station, Tex.: Texas A&M University Press, 1999).

[30]As James Corum pointed out in a paper presented at the Dueling Doctrines conference sponsored by the Center for Strategic and International Studies (Washington,

D.C., June 1998), there was a strong French influence on the American military since the 1840s and strong German influence since the 1870s.

[31]After World War II, the Army War College moved to Carlisle Barracks, Pa., while the National War College took over its buildings at Fort McNair.

[32]Over the past thirty years there has apparently been only one admiral who served on the faculty at Newport. Since it is hard enough for the navy to justify sending its best officers as *students* to Newport, this is not surprising.

[33]E. B. Potter, *Nimitz* (Annapolis, Md.: U.S. Naval Institute Press, 1976), p. 136.

War II, reported for duty on the faculty.

The contribution of the schools at Quantico in writing the basic doctrine for amphibious warfare is well known. Similarly, the Naval War College and its president in the early 1920s, Admiral William S. Sims, were experimenting with possible uses for aircraft carriers before the U.S. Navy possessed a single one. Significantly, Sims had chosen to return from his position as commander of U.S. naval forces in Europe during World War I to become the president of the Naval War College.[34]

The history of the first half of this century would suggest that military culture was a crucial determinant in how well military organizations adapted to war. But an examination of the historical record also suggests that there are no easy ways to change the cultural patterns by which officers judge themselves and their environment. In fact, the history of the interwar period suggests that cultural patterns were set almost immediately after the First World War and, for better or worse, remained fixed throughout the run-up to the Second.[35]

Military Cultures, Present and Future

If military culture has mattered in the past, then it is surely important to judge the current cultural climate in the U.S. military services. As suggested earlier, there is no monolithic American military culture. Rather, the four services, reflecting their differing historical antecedents and the differences in the environments in which they operate, have evolved cultures that are extraordinarily different. The environmental influences are particularly important to any understanding of the peculiar cultures that the services have developed. Even with the best will in the world to make the American military "joint," those differences will continue to shape how airmen, sailors, soldiers, and marines view war. The air force will remain a technologically driven organization. Moreover, the nature of air war, with hundreds if not thousands of aircraft launched against targets on the ground and in the air, will demand a degree of top-down organization that ground operations do not. The demands for tanker support, suppression of enemy air defens-

es, and the interplay between air-to-air fighters and bomb-droppers inevitably requires a mechanistic approach to military operations in the air.[36] Similarly, the highly technical nature of surface, submarine, and aviation combat in the navy push that service towards a technological, engineering-based approach to warfare.[37] On the other hand, both the army and Marine Corps, influenced by the nature of land combat, will be driven to a more Clausewitzian view of war.

Yet whatever the environmental differences, service cultures also possess beliefs and traditions that play crucial roles in how they think about and prepare for war. Here, there are worrisome signs, not only within the services themselves, but within the "joint" community as well. First, as suggested above, there has been a generational change in all the services as those with experience in the Vietnam War retire. The Vietnam generation returned from Southeast Asia skeptical that technological solutions offered a means to simplify the complexities and ambiguities of war. In a profound sense, they were Clausewitzian in their outlook on the utility and conduct of war. As the 1986 edition of the army's basic doctrinal manual, FM 100-5, underlined, "Friction—the accumulation of chance errors, unexpected difficulties, and the confusion of battle—will impede both sides. To overcome it, leaders . . . must be prepared to risk commitment without complete information, recognizing that waiting for such information will invariably forfeit the opportunity to act."[38]

The new generation of officers, with the exception of the Marine Corps, has proven far more attracted by technological, mechanistic solutions to the complex problems raised by war. In fact, a considerable number of senior officers have been arguing that advances in computer technology and communication systems will allow the U.S. military to see and destroy everything in the wide expanses of a battle. Others have gone so far as to suggest that these advances will eliminate friction by allowing commanders absolute knowledge about what the enemy is doing: "The emerging system . . . promises the capacity to use military force without the same risks as before—it suggests we will dissipate the

[34]Barry Watts and Williamson Murray, "Military Innovation in Peacetime," in *Military Innovation*, pp. 383–405. Similarly, Admiral Spruance chose to come back from command in the Pacific to become president of the Naval War College.

[35]The one exception to this might be the German military, where Nazi ideology came to have a greater influence over the officer corps as the war approached, and over German military effectiveness throughout World War II. In particular, see Omer Bartov, *Hitler's Army: Soldiers, Nazis, and War in the Third Reich* (Oxford: Oxford University Press, 1991).

[36]See the discussion of the third day's mission against Baghdad flown during the Gulf War, in Williamson Murray, *The Air Campaign in the Persian Gulf* (Baltimore, Md.: Nautical and Aviation Press, 1996), pp. 86–96.

[37]Only the shattering experience of major fleet combat in the Solomons forced the navy toward a broader, less mechanistic view of fleet operations.

[38]Field Manual 100-5, *U.S. Army Blueprint for Air/Land Battle*, 1986, p. 16. The Marine Corps Manual FMFM 1, *Warfighting*, represented an even more emphatic statement of such a point of view.

'fog of war.'"[39]

Indeed, what appears to be occurring—especially in the air force—is a reprise of the sort of mechanistic, engineering, systems-analysis approach that contributed so much to failure in Vietnam. As the air force's *New World Vistas* suggests: "The power of the new information systems will lie in their ability to correlate data automatically and rapidly from many sources to form a *complete* picture of the operational area, whether it be a battlefield or the site of a mobility operation" (italics added). Such claims betray a general disinterest and ignorance of basic science.[40] But the navy, too, has displayed a considerable penchant for believing that technology is a "silver bullet," and its thinkers argue for something called "network-centric warfare," according to which integrated information systems can grasp everything that is happening in a vast battlespace and destroy the crucial targets on which the enemy depends. As the chief proponent of this view, Admiral Arthur Cebrowski, recently argued:

> Network-centric operations . . . create a higher awareness, and allow it to be maintained [in combat]. Such awareness will improve our ability to deter conflict, or to prevail if conflict becomes unavoidable. . . . The structural or logical model for network-centric warfare has emerged. The entry fee is a high-performance information grid that provides a backplane for computing and communications. The information grid enables the operational architectures of sensor grids and engagement grids. Sensor grids rapidly generate high levels of battle-space awareness and synchronize awareness of military operations. Engagement grids exploit this awareness and translate it into increased combat power.[41]

This summer's war game at Newport indicated that some in the navy believe that "the great data base in the sky" will provide U.S. commanders with absolute knowledge of everything that happens in an enemy nation in the next war. Clearly, they believe that the theater commander will fight a future war the way a ship commander runs his combat center. Fog, friction, ambiguities, and

uncertainties will ostensibly disappear under the searching eye and superior capabilities of technology that provides U.S. forces with an ever greater flow of data and information.[42]

Finally, even some senior army officers display such faith in technology. Two years ago a senior army general announced to the students of the Marine War College that "the digitization of the battlefield means the end of Clausewitz"—in other words, computer technology and modern communications will remove fog and friction from the future battlefield, at least for American military forces. There is clearly a major struggle within the army at present between those who follow the technological line and those who adhere to a less mechanistic view of the world.

What makes this techno-craze so dangerous is that it flies in the face of 2,500 years of history, not to mention modern science. Friction, ambiguity, chance, and uncertainty are not merely manifestations of inadequate communications and technology that U.S. military organizations in the next century may overcome, but rather manifestations of the fundamental nature of the world, where if something can go wrong, it will.

> Consider, after all, how much would have to be overturned or rejected to conclude otherwise. Among other things, one would need to overthrow nonlinear dynamics, the second law of thermodynamics, the fundamental tenets of neo-Darwinian evolutionary biology, and all the limiting metatheorems of mathematical logic. . . . No small task indeed![43]

Another apparent weakness in the current military cultural climate—and one that certainly did not obtain in the interwar period—is the decline of professional military education, the subject of a devastating House Armed Services Committee report of the late 1980s. To be sure, the Naval War College remains the finest institution of its kind in the world, but unfortunately the navy still resolutely refuses to send its officers to school. Elsewhere, the fact that the National Defense University seriously considered getting rid of its entire civilian faculty so that it could finance the buying of sophisticated computers suggests a general disdain for serious military education among those heading such institutions. In fact, the inclinations within the world of professional military educa-

[39]Adm. William Owens (former vice chairman of the Joint Chiefs), "System of systems," *Armed Forces Journal*, Jan. 1996, p. 47. See also, Thomas Duffy, "Breakthrough Could Give Forces Total Command of Future Battlefield," *Inside the Navy*, Jan. 23, 1995; and Peter Grier, "Preparing for 21st-Century Information War," *Government Executive*, Aug. 1995, pp. 130–32.

[40]Department of the Air Force, *New World Vistas: Air and Space Power for the 21st Century* (Washington, D.C.: U.S. Government Printing Office, 1995).

[41]Vice Adm. Arthur K. Cebrowski, USN, and John J. Garstka, "Network-Centric Warfare, Its Origin and Future," *Proceedings of the U.S. Naval Institute*, Jan. 1998, p. 33. In Cebrowski's defense, he does at least argue for a bottom-up rather than a top-down approach to command and control. But in the world of economics, where he draws his examples, no one is trying to kill, maim, or mutilate his opponents. For a devastating reply, see Col. T. X. Hammes, USMC, "War Isn't A Rational Business," *Proceedings of the U.S. Naval Institute*, July 1998, pp. 22–25.

[42]Yet at the end of that war game, the navy's campaign had entirely failed to achieve the national objectives: despite massive bombardment by U.S. air power that destroyed the enemy's military forces and wrecked its country, the enemy remained defiant and unbroken. To learn how close to replicating the real world the war game was, see Anatol Lieven, *Chechnya, Tombstone of Russian Power* (New Haven, Conn.: Yale University Press, 1998).

[43]Barry D. Watts, *Clausewitzian Friction and Future War* (Washington, D.C.: National Defense University Press, 1996), p. 132.

tion reflect the attitudes of both the larger military culture and society: profoundly anti-intellectual and ahistorical.[44]

Only the Marine Corps has made a major, across-the-board effort to upgrade its entire educational system, with particular emphasis on the intellectual vitality of its officer corps outside the classroom. The commandant's professional reading list represents the most coherent and consistent effort to provide an intellectual compass that any service has ever possessed. Moreover, the marines take pains to insure that the books on the list are available in exchanges and libraries. Not surprisingly, the navy does not have a professional reading list, the air force's list is remarkable for its shortness and superficiality, and the army's list remains largely unavailable to its officer corps.

The area of military doctrine underlines to an even greater extent the disparity between the service cultures, and has proven a crucial enabler for military forces engaged in combat throughout this century. It has provided the basic framework for thinking seriously about the business of preparing for and conducting war. The navy has only recently created a doctrine command and until this summer it was led by a one-star admiral. In contrast, a four-star general has headed the army's Training and Doctrine Command since the 1970s. The air force has also devoted considerable resources to doctrine, but the results reflect a service with few interests outside of technology (and certainly not the study of war). Its new *Air Force Basic Doctrine* is long on pictures and short on content. In the doctrinal world its approach is close to that of "See Spot fly; see Jane bomb." And in case the reader is incapable of picking out the key points, they are italicized in blue.[45]

The army represents the most important service in terms of determining where the U.S. military will go in coming decades. The mid-1980s version of manual FM 100-5 was at the time the most realistic, Clausewitzian doctrine ever written by the American military. But a subsequent version published in the early 1990s was a far less satisfactory examination of war and

military operations. There is now a very good new draft of FM 100-5 being considered and reviewed by the army, but there are indications that the draft, which represents a return to the seriousness and focus of the 1986 version, has been withdrawn. How the debate within the army plays out will say a great deal about where its culture is headed.

Perhaps the most worrisome indications that all is not well with U.S. military culture are the publications that pass for the thinking done by the joint staff. Over the past decade the joint staff has published a whole set of doctrinal publications. For the most part these publications are harmless, except to those condemned to read them. In their mind-numbing prose, their lack of any significant intellectual content, and their interminable laundry lists of bureaucratic concerns, they are best suited to insomniacs. They certainly do not provide much guidance to warfighters.[46] But more insidious has been the appearance of a "blueprint" for the U.S. military in the twenty-first century, published under the guidance of the joint staff. *Joint Vision 2010* supposedly provides "an operationally based template for the evolution of the armed forces for a challenging and uncertain future." Its intellectual value is virtually zero. One marine general accurately described it as a "collection of bumper stickers and advertising slogans."[47] The document posits four "emerging operational concepts: dominant maneuver, precision engagement, focused logistics, and full-dimension protection." These concepts are then tied together by information superiority to achieve "massed effects—full spectrum dominance." Not surprisingly, given the current civilian bosses in the Pentagon, the document is completely politically correct.[48] But what is really dangerous is that *JV2010* possesses a strong emphasis on the top-down, mechanistic approach to war of the McNamara era. In effect, it represents the worst aspects of the French army's culture of the 1930s without the underpinnings of serious study that characterized the French in that period.

The one oasis in the desert that is military doctrine remains the Marine Corps. Its doctrinal manuals connect with the real world and to the fact that the American military is supposed to be

[44]See Williamson Murray, "Grading the War Colleges," *National Interest*, Winter 1986/1987, pp. 12–19; and Williamson Murray, "How Not to Advance Professional Military Education," *Strategic Review*, Summer 1997, pp. 73–77. For the current state of U.S. professional military education, see Lt. Gen. Leonard D. Holder Jr. and Williamson Murray, "Prospects for Military Education," *Joint Force Quarterly*, Spring 1998, pp. 81–90.
[45]U.S. Air Force, *Air Force Basic Doctrine, Air Force Doctrine Document 1*, Sept. 1997. Among the astonishing statements made in the manual is that decentralized command has not withstood the test of time.

[46]To gain a sense of the joint doctrine, consult "Joint Doctrine, Capstone and Keystone Primer," July 15, 1997; Joint Pub 0-2, "Unified Action, Armed Forces," Feb. 24, 1995; and Joint Pub 3-0, "Doctrine for Joint Operations," Feb. 1, 1995.
[47]*Joint Vision 2010* (Washington, D.C., 1996), p. ii. Lt. Gen. Paul Van Riper, USMC (ret.), to the author in July 1997.
[48]For instance, "Commanders will be expected to reduce the cost of military operations, from environmental disruption in training to collateral damage in combat." *JV2010*, p. 8. "Full spectrum" quote on p. 19.

preparing and thinking seriously about war.

> The essence of war is a violent struggle between two hostile, inde-
> pendent, and irreconcilable wills, each trying to impose itself on the
> other. . . . It is critical to keep in mind that the enemy is not an inani-
> mate object to be acted upon but an independent and animate force
> with its own objectives and plans.[49]

In every respect the series of common-sense, historically based publications that have followed *Warfighting* aim to give marines a realistic and intelligent understanding of war's uncertainties, ambiguities, and horror. They could provide a model for the other services and joint staff to think about war in the century ahead. Unfortunately, they will not—at least not as long as the dominant cultures in those services remain unchallenged and unchanged.

One of the dangerous aspects of the current cultures has been the growing propensity to shut down debate. The air force has traditionally been a service that aimed to speak with one voice and demanded that its officers submit their writings for policy review. The current situation with regards to the army is even more disturbing. The current draft of AR 600-20, "Army Command Guidance," clearly aims to shut off any hint of debate within the army. As a recent editorial in *Strategic Review* has noted, "in effect it proscribes an officer from even holding certain views which contravene official policy, much less from espousing them; it would cast those who even think of dissenting as belonging to extremist organizations."[50] It is well to remember that in the mid-1930s the French army commander in chief, General Maurice Gamelin, demanded that all officers submit their writings for review by the high command. "Everyone got the message," a junior officer later wrote, "and a profound silence reigned until the awakening of 1940."[51]

Conclusions

In a recent edition of *Army*, a senior officer commented about his service:

> As an institution, the Army finds itself so comfortable without
> debate, unconcerned that . . . "the Army goes rolling along." We

should remember, however, that rolling along works best in one direction: downhill.[52]

The greatest danger for the United States in the coming century is that the American military will possess self-satisfied, intellectually stagnant cultures that believe they have found the technological lodestone.

Military cultures that remain enmeshed in the day-to-day tasks of administration, that ignore history and serious study, and allow themselves to believe that the enemy will possess no asymmetric responses are military organizations headed for defeat. Certainly in comparison to the thinking and atmosphere of the U.S. military in the last interwar period, the present picture suggests that there are major weaknesses in the current cultures. Consequently, any major efforts at military reform will founder unless they address fundamental problems to which there are no simple solutions. Moreover, any serious reforms can only have long-term results over decades, not months or even years. At least the United States is presently in a period of strategic quiescence and consequently possesses some time, that most precious of factors. But how much time, and how that time will be used, remain very much open to question.

Above all, the services need to practice some profound introspection, for unless they understand themselves and how different their world views are from those of the country's opponents in the next century, the United States is headed for a major crack-up that could prove even more disastrous than the Vietnam War. For at a minimum, notes an eminent military historian, American strategists

> must see clearly both themselves and potential adversaries, their
> strengths, weaknesses, preconceptions, and limits—through humility,
> relentless and historically informed critical analysis, and restless dis-
> satisfaction even in victory. They must weigh imponderables through
> structured debates that pare away personal, organizational, and
> national illusions and conceits. They must unerringly discern and
> prepare to strike the enemy's jugular—whether by surprise attack or
> attrition, in war or in political and economic struggle. And in the end,
> makers of strategy must cheerfully face the uncertainties of decision
> and the dangers of action.[53]

There are few indications that the American military is capable at present of engaging the world in such terms.

[49]*Warfighting*, pp. 1–2.
[50]Benjamin F. Schemmer, "Principled Disobedience," editorial, *Strategic Review*, Summer 1998, p. 3.
[51]André Beaufre, *1940: The Fall of France*, trans. Desmond Flower (New York: Alfred A. Knopf, 1968), p. 47.

[52]Col. David Fastebend, "Toning Down the Silence," letter to the editor, *Army*, July 1998, pp. 5–6.
[53]MacGregor Knox, "Continuity and Revolution in Strategy," in *The Making of Strategy, Rulers, States, and War*, ed. Williamson Murray and MacGregor Knox (Cambridge: Cambridge University Press, 1994), p. 645.