The US Army War College Quarterly: Parameters

Volume 31
Number 3 *Parameters Autumn 2001*

Article 13

8-17-2001

Professional Education: The Key to Transformation

Henry H. Shelton

Recommended Citation
Henry H. Shelton, "Professional Education: The Key to Transformation," *Parameters* 31, no. 3 (2001), doi:10.55540/0031-1723.2056.

Professional Education: The Key to Transformation

HENRY H. SHELTON

From *Parameters*, Autumn 2001, pp. 4-16.

> "Study the first six months of the next war." -- General George C. Marshall

---

The profession of arms, just as any other recognized profession, is distinguished by the requirement for continuing education, essential to maintaining the vitality and lifeblood of its members. Ours is a unique profession, one that often entails considerable risk to the individual soldiers, sailors, airmen, and marines charged with our country's defense. To minimize the risks to them, and to ensure our nation's security, we must properly groom the future leaders of our armed forces. These leaders must be proficient in many fields so that they can direct military actions that will achieve desired political ends. They must have the advantages of a broadly based education program that will prepare them to tackle the exacting challenges they will face in the years to come. Such an education will provide the intellectual foundation for the transformation of our military, made necessary by the ever-changing nature of the threats to our national security.

Education in the art and science of conflict will help to cultivate visionary military leaders. But that is too narrow a focus. Our military leaders must be schooled in matters both military and political. While they need to be familiar with the latest scientific and technological advances, and how they apply to the profession of arms, they must also be masters of the geopolitical realm. They have to be as conversant with the complexities of world politics as they are with the tools of modern warfare. These stringent requirements for our future military leaders mean we must educate them on a wide range of subjects over a period of years throughout their careers. This requires devoting the necessary time, energy, and resources to ensure that our future warriors are fully equipped for the demands that will be placed upon them.

The Risk of Complacency

Some may take comfort in the fact that our forces displayed overwhelming superiority during our most recent combat experience, Operation Allied Force. America's high-tech preeminence was indeed showcased in 1999 as we selectively destroyed key targets in the Federal Republic of Yugoslavia, forcing Slobodan Milosevic to capitulate and agree to NATO's terms. The United States, as the clear leader of the NATO alliance, used its growing technological lead in key areas--such as secure communications, precision munitions, and electronic warfare--to completely dominate the battlespace. We make no apologies for our use of advanced technology. This, along with a highly effective strategy, was directly responsible for our ability to end the conflict quickly, without the loss of a single US service member to combat. Allied Force serves as a significant data point, adding to the record of success achieved nearly a decade earlier in Operation Desert Storm. Both operations emphasize the tremendous synergy that we reap when we combine America's technological achievements with a tailored educational program for our military officers. The dollars that our nation invested in educating the leaders of Operations Allied Force and Desert Storm paid off in terms of the strategy and the operational concepts that our men and women in uniform followed to victory.

Gratifying as these previous results are, there is no guarantee that we will be able to replicate our performances in Allied Force and Desert Storm unless we continue to press forward with an aggressive education plan. This plan must be designed to expand the knowledge envelope that will, in turn, lead us along the path to military transformation. We cannot afford to sit still and wait for others, friend or foe, to catch up. Instead, we must continue to pursue new technology, while at the same time challenging ourselves to take advanced courses of instruction at civilian and military institutions. Moreover, each of the services has to make tough assignment choices and allow promising officers the chance to attend Professional Military Education (PME) programs. The military's excellent PME system

provides instruction that is indispensable to our future success. The system offers a remarkable opportunity for officers, at various stages of their careers, to take time out from their normal jobs, gain exposure to broader national security issues, and interact with others from different career specialties.

To put it simply, we must provide our future leaders with the best possible education in the military art, and other related fields, to make certain America retains its preeminence on tomorrow's battlefields. Education will likewise provide the intellectual capital required to transform today's outstanding armed forces into an even more capable Future Joint Force--a force that will protect our nation's global interests in the decades ahead. This investment in educating our people and building future leaders is crucial to meeting our future security requirements. It is an investment we must not fail to make.

The Transformation Imperative

America has clearly moved into a position of unrivaled military advantage relative to our potential adversaries and our friends as well. This sometimes causes concern about maintaining interoperability with our allies. We need, however, to keep our focus on making progress, rather than waiting on others to catch up. We have an obligation to America's future fighters to provide them with the finest, most modern equipment possible so that we can save lives and end conflicts quickly. Our ultimate goal would be to have such a powerful military force that potential aggressors are held in check, deterred from even starting a conflict in the first place.

Given the current capability gap in a number of important technologies, there is a real danger of becoming complacent; however, as lessons from the past clearly show, overconfidence is a perilous trap. Examples abound, notably France's faith in the Maginot Line--until the German blitzkrieg rendered this type of static defense impotent. Just as castle walls gave way to gunpowder and the cannon, so too will present technology give way to new ideas and new tools of war. Previously successful weapons and employment methods will be relegated to the dustbin of history by the inevitable, indeed the accelerating, march of technological progress. The task is evident: we must step forward with the innovations that will ensure our nation's security.

Of equal concern is the fact that America's potential opponents will actively seek alternative, so-called asymmetric, means to avoid our strengths and exploit our weaknesses, which is yet another powerful reason not to rest on our laurels. Terrorist attacks are one of the most common forms of asymmetric warfare, where a limited number of individuals take action on part of some disaffected group or even on behalf of a nation hostile to the United States. They use stealth and surprise to negate our superiority. The bombings in Beirut, at Khobar Towers, and against USS *Cole* are tragic reminders of this type of threat. Additionally, the alarming proliferation of advanced military technology, including weapons of mass destruction, ballistic and cruise missiles, and unmanned aerial vehicles, suggests that our present military advantage may no longer provide the desired deterrent effect in the years ahead. The balance of power, tipped so heavily in our favor at present, could begin to shift as other nations, and even terrorist or criminal organizations, pursue their own versions of military transformation.

Military transformation of our forces is, therefore, an imperative if we are to be ready for the challenges of this new century. But transformation is first and foremost an intellectual exercise, requiring the brightest minds actively engaged in taking our armed forces to new and higher levels of effectiveness. Therefore, the road to transformation begins with a strong program of education and leader development. This will provide the underpinning for experimentation with new ideas, equipment, and doctrine that will lead to a transformed US military, fully prepared for emerging threats.

The Role of Professional Military Education

As we embark on this essential path to transformation, we should remember that our predecessors confronted many of the same issues in the past that we do today. This is certainly true with respect to education and leader development programs. The military has historically invested considerable time, energy, and talent in education and leader development. Senior leaders have long recognized that it takes a quality force consisting of professional, well-trained, and highly creative men and women to harness new technology by transforming organizations and adopting innovative doctrine. This requires a long-term commitment to educational excellence. We cannot afford to be shortsighted because it takes roughly 15 years to develop a joint-qualified officer and 25 years to grow a Joint Task Force

commander.

Our professional military education system performs a key role in this leader development endeavor and provides many important benefits to the force. PME programs spark creative, adaptive, and motivated leaders who, in turn, make the entire force more professional and stimulate intellectual development throughout the ranks. All service and joint educational systems also serve another important role by helping to meet current readiness requirements. They provide our field and fleet commands with trained personnel who are well-versed in the latest doctrine and warfighting techniques. Leader development plays a similarly important role in anticipating and planning for the future. Our professional military education system provides forums that encourage debate that serves to refine employment concepts for future operations. These PME institutions likewise promote professional self-development out in the fleet or field through outreach efforts, including new distance learning initiatives via the internet. This is in addition to the more traditional, yet still effective, approach of sending out publications and holding conferences. Service schools and colleges, as well as the joint educational programs offered through the National Defense University, are at the forefront of our plans to develop aggressive, agile, and effective leaders who are ready to build the Future Joint Force.

There are challenges ahead. Despite the obvious advantages derived from our past investments in education and leader development, the pressing realities of fiscal and operational constraints often become roadblocks to progress. This leads to maintenance of the status quo--the path of least resistance. As a consequence, sustaining education and leader development programs must be a priority for our senior leadership. This likewise needs the support of the entire chain of command because, as was noted earlier, commanders at all levels have to be willing to make the right people available for school if we are succeed with our leader development objectives. As always, there will be friction between the demands of our current operational requirements and the long-term well-being of the force. Sound, mature judgment is called for to strike the proper balance. This does not, however, have to be an either/or proposition. We can turn to history for guidance.

The Interwar Experience

Faced with competing demands in the 1920s and 1930s, the nation's military leaders during that trying period had to perform a tough balancing act. They had to garrison posts around the globe with an underfunded and understrength force while at the same time transforming each of the services in preparation for a major conflict--a conflict that was soon to engulf the world. The good news is that they succeeded. The necessary preconditions for this transformation were in place well before Pearl Harbor, thanks to initiatives focused on education and leader development.

During the interwar period, each of the services had to grapple with issues of readiness, retention, modernization, aging equipment, and inadequate infrastructure. Despite the challenges of the moment, each of the services made a sustained commitment to leader development. This steadfast protection of education during the lean years between the wars later paid enormous dividends during World War II.

In the years following America's precipitous demobilization after the Armistice Agreement of November 1918, meager defense spending produced a severe deterioration in military readiness and combat capabilities. The National Defense Act of 1920, which grew out of the experiences of the Great War, provided an improved organizational framework for the military. Unfortunately, the best intentions of this reform effort were subsequently undercut by successive presidential administrations and Congresses locked in a bidding war to limit military appropriations. As a result, military readiness did not begin to improve until the late 1930s, and only after the Roosevelt Administration and defense advocates, such as US Representative Carl Vinson of Georgia, successfully argued for increased military appropriations.

Though we may characterize the interwar era as a period of relative calm for the military, our small forces still had a sizable number of operational requirements. The Army had to defend US interests in the Panama Canal, the Philippines, and elsewhere. The Navy had to protect maritime sea lanes and access to our overseas possessions. The Marines were deployed for many years in Central America and the Caribbean. And the Army and Navy both shared responsibility for coastal defense.

America was fortunate at that time to have a number of determined, visionary leaders who remained on active duty

with each of the services after the First World War despite the fact that promotions, pay, and field and fleet training all suffered. Even though military budgets were sparse during this time, the services dedicated sufficient funds to continue with the professional education and leader development programs. The Army's senior leaders remained firm in their belief that as the Army became smaller and less capable, professional education would be increasingly important to the long-term health of the service. They stayed the course and continued to develop a cadre of future leaders.[1]

As such, many World War II combat leaders either taught or attended professional military schools, and often did both during the interwar period. For example, while Assistant Commandant of the Army's Infantry School from 1927 to 1932, George C. Marshall undertook a broad revision of its curriculum. Claire Chennault, Carl Spaatz, and Hoyt Vandenberg all taught at the Air Corps Tactical School. George S. Patton and Omar Bradley both taught at Army schools in the 1930s. Furthermore, all these men were graduates of the Army War College. The Navy similarly understood the importance of professional military education. Indeed, attendance at the Naval War College became a virtual rite of passage to obtain flag rank during this period.[2]

It was here, in these educational settings, that the seeds of innovation and transformation began to take root, notwithstanding the difficulties associated with limited military budgets. Remarkably, the interwar period was a time of numerous important military innovations including amphibious warfare, carrier aviation, and strategic bombing. To varying degrees, the Army, Navy, and Marine Corps all relied on their service schools and colleges to examine and experiment with emerging technologies, write doctrine, and help develop and evaluate war plans. This new reliance on war colleges and schools was, in fact, due to budgetary and manning constraints placed upon the staffs of the War and Navy Departments. The Army War College, for example, established a number of student committees that conducted a wide range of staff studies for the War Department, leading to the development of the three-regiment, "triangular" Army division, among other reforms.

The focus of study and innovation during the interwar period was influenced primarily by the lessons of World War I, including mass mobilization for war, the avoidance of trench warfare, and the integration of emerging technologies such as the airplane and the tank.[3] Both the War and Navy Departments, aided by the students and faculties at the War and Naval Colleges, also studied possible future threats to America's security. They were especially concerned about Japanese threats to US possessions in the Pacific, to Southeast Asian natural resources, and to the vital shipping lanes in the Pacific. Beginning in 1923-24, presaging the Goldwater-Nichols era of joint emphasis, the Army and Navy War Colleges assisted the Joint Army-Navy Board during a continuous series of war games based on War Plan Orange, the contingency plan for war with Japan.

This led to further study and analysis by the future leaders of World War II as they contemplated inventive approaches to address potential threat scenarios. One of the most important examples of how leader development supports innovation was the Navy's emphasis on creating an effective aircraft carrier force that would extend the range and mobility of combat aviation. The Naval War College played a pivotal role in this effort.[4] Under the prescient leadership of Rear Admiral William S. Sims, the Naval War College conducted a series of strategic and tactical war games that underscored the immense potential of the aircraft carrier. Simultaneously, these games provided critical leader development for naval officers in the tactical decisionmaking process.[5]

The Marine Corps, driven by the requirement to provide bases to support naval movements across the Pacific Ocean, seized upon the idea of amphibious assault. Students at the Marine Staff College also played a vital role in the development of this important doctrine, conceived in the early 1920s by Major Earl Ellis. Despite its limited size and budget, the Marine Corps was able to experiment with amphibious operations in the mid-1920s and again from the late 1930s through the beginning of World War II.

The Army found itself too cash-strapped to conduct much field experimentation with mechanized and armored forces until the end of the 1930s. The intellectual framework for the doctrine essential to field this force was, however, discussed extensively at Army schools throughout the interwar period. Once infused with larger budgets and more manpower, the Army began a series of large-scale exercises called the Louisiana Maneuvers that tested these new concepts. Meanwhile, guided by studies conducted at the Air Corps Tactical School, the Army Air Corps developed the doctrine and the aircraft for strategic bombing, pursuit aviation, and close air support operations.

Through all these intellectual pursuits and subsequent efforts to experiment with new concepts and technology during the interwar era, the military was also developing a new generation of leaders. They were not afraid to "think outside the box" and challenge existing notions about the proper way to conduct a war. This ultimately proved to be crucial to our success in employing sophisticated new weapons and equipment in combat. It is hard to imagine how we would have fared in World War II had these leaders not pursued their visions with determination. Through their efforts, the services transformed themselves into substantially more effective combat organizations. Thus, the unmistakable lesson from their transformation efforts is the vital linkage between education, leader development, and the fielding of advanced capabilities.

The Emerging Environment and the Direction of Education

In the interwar period, military leaders were able to leverage changes in technology to yield the innovations that ultimately transformed each of the services. Today, we are experiencing an even faster rate of technological change and, like our predecessors in the interwar period, our goal is to harness this change, encourage innovation, and transform ourselves to become a more capable military, ready to meet our nation's future national security requirements.

The interwar era also taught us some important lessons about the value of alliances. We learned that going it alone was not a suitable strategy in the modern world. Today, unlike the isolationist nation of the 1920s and 1930s, the United States is a leading global power--politically, economically, and militarily. Our nation is integrated into the fabric of the global economy, and we cannot afford to ever again chart an isolationist course. This new reality frames and shapes our current joint transformation plans. America's current alliance structure and involvement in various cooperative forums are major elements in our determined effort to avoid the tragic lessons of the past. We know all too well what can happen when a lack of preparedness invites aggression, as it did a mere two decades after the carnage of the First World War.

Consequently, our armed forces have devoted considerable attention in this post-Cold War environment to maintaining current readiness so that we will be capable of quickly responding to a crisis far from our shores. As was the case in the interwar period, our high operations tempo, coupled with reduced defense spending, has complicated and slowed our transformation efforts. Near-term demands on our limited manpower necessarily compete with the need to educate our future leaders. Simply acknowledging the importance of education is not sufficient. Education must be kept a priority, and it must remain relevant to our long-term objectives, as spelled out in *Joint Vision 2020*.

The Professional Military Education system must explore innovative ideas and experiment with pioneering concepts that will enable our nation's military forces to evolve rapidly and adapt to all potential threats. Not only must we prepare for conventional warfare, the current and future strategic environment requires that we deal with new threats posed by nation-states and radical groups. They may come equipped with an arsenal of weapons including nuclear, chemical, biological, and radiological weapons of mass destruction. They may also try to intimidate or bully us by threatening our communications networks and power distribution centers. Just as the nature of the threats to our security is changing, so too are other factors:

- Strategic response times are much shorter. The availability of news from cable, satellite, the internet, and other media compresses the time between finding out about events and the demand to "do something." The requirements for rapid-response capabilities are clear.

- We can expect more failed states, as people struggle for independence, for political legitimacy, and for economic and resource advantages in climates of violence, repression, and deprivation. We can also expect an increased role for non-state actors. Deterrence against these threats is difficult. Our ability to find peaceful alternatives to the use of force will be severely taxed.

- The availability of technologies to potential adversaries is expanding, to include missiles and unmanned aerial vehicles armed with conventional, chemical, biological, and other weapons. As deterrence and arms control become more problematic, we need to aggressively explore systems to defeat these threats.

• The range and types of conflict will expand. As the diversity of threats increases, so too will the complexity of military tasks. We can expect asymmetric attacks, anti-access strategies, and information warfare designed to take advantage of our perceived weaknesses and to prevent the United States from deploying forces. Future adversaries may also try to stay below the threshold of clear aggression, further complicating appropriate response options. When you combine these factors with the very real potential for high-intensity regional conflict, or even direct threats to our homeland, it is reasonable to conclude that our future joint force commanders will face some enormous challenges.

Despite the end of the Cold War, the world remains a dangerous place. America's economic power generates envy in many and outright hatred in others. Although America has no peer competitor, we must remain alert to the potential for a single conventional power, or a combination of forces, that could mount a focused campaign against US interests. Given the pace of change today, this potential might develop much sooner than many among us think possible.

Based on recent trends, the challenge is clear. We must leverage the great capabilities of each of our services and harness the full potential of emerging technologies to develop a more lethal, adaptable, and deployable joint force, able to operate effectively within a coalition, as well as within a joint interagency task force. We must remain flexible enough to deal with surprise. The focus of joint education efforts should be structured to support the development of these capabilities.

In doing so, we must consider what it will take to develop competent leaders of our future joint forces and the type of people who can master operations in the environment described above. These leaders must be well-grounded in the capabilities and doctrines of their respective services. They must also be well-versed in joint operations, melding the right mix of service capabilities to fit the environment in which they will operate. That environment will likely involve the compression of the tactical, operational, and strategic levels of warfare and the probable use of the military instrument in operations other than war.

Therefore, these future leaders must be adept at the management of modular "plug and play" forces. Indeed, the mission and organization of a Joint Task Force (JTF) may evolve slowly over an extended period of time--or very quickly--depending on the circumstances in each particular situation. One example of how rapidly the mission of a JTF can change occurred during Operation Uphold Democracy in Haiti in 1994. Within a matter of hours, operational planning shifted from a forced-entry operation to a permissible-entry peace enforcement operation. This is the type of flexibility, from the tactical level through the strategic, that we must engender in our future leaders. Since future operations are not likely to be service-specific, we need to enhance our joint education and training to prepare our forces for the joint battlefield.

Joint Education Initiatives

General Dwight D. Eisenhower, perhaps the 20th century's greatest practitioner of joint warfare, spoke about one of the most powerful lessons he drew from his experiences during the World War II: "Separate ground, sea, and air warfare is gone forever. If ever again we should be involved in war, we will fight it in all elements, with all services, as one single concentrated effort." That is a clear mandate directing our generation, and all future generations, to focus adequate resources on joint education and training.

To go along with that mandate, we have laid out a roadmap for the transformation of our Joint Force in *Joint Vision 2020*. We already have made several organizational changes that will have a broad impact on the direction of joint education and transformation. For example, United States Atlantic Command has become Joint Forces Command (JFCOM). This is more than simply a name change. JFCOM's primary mission focus is to actively stimulate innovation in joint warfighting through experimentation. In other words, JFCOM is tasked to explore, demonstrate, and evaluate advanced joint warfighting concepts and capabilities. This is where education, leader development, and experimentation are linked together to provide leading-edge ideas that can be put into practice for the Future Joint Force.

We have experienced considerable success during the last 15 years with the joint requirements mandated through the Goldwater-Nichols Department of Defense Reorganization Act of 1986. Ten of those years have been in the post-Cold

War era. During this period, the favorable results achieved by our regional combatant commands in establishing joint competency at the theater level is due, in no small measure, to the creation of a corps of joint-qualified officers through the Joint Professional Military Education (JPME) system. This was brought about at the end of the 1980s through the determined work of visionary people such as Representative Ike Skelton of Missouri and many others.[6] However, our successes have also highlighted several shortcomings in other areas. For example, our experience with JTFs has revealed a few deficiencies with the current educational system.

Many of the people who serve on Joint Task Force staffs have not been able to receive adequate educational preparation prior to their assignment. JPME Phase I, which is taught at each of the service staff colleges, provides an excellent primer, but time constraints limit the depth of study required to fully prepare officers to work on JTF staffs. Operations tempo and personnel shortfalls sometimes interfere with sending the right people to the Joint Forces Staff College (JFSC) for JPME Phase II at the right time. Paradoxically, with the proliferation of Joint Task Forces, JFSC does not have enough seats to provide Phase II for all the personnel who fill JTF staff billets. The curriculum offered at the JFSC is generally accessible to active component officers who are planning to become Joint Specialty Officers (JSO), but JPME Phase II is less available to officers who serve in other than JSO-critical positions on joint staffs.

Thus, we are working to broaden the scope and availability of joint education. The National Defense University and the Joint Staff are working with the combatant commands, all the service colleges, and the reserve components to refine the focus of joint education and make it more accessible. One of the major initiatives under way is the creation of Joint Distributed Learning Centers at JFSC and Joint Forces Command. This involves the development of distance and distributed JPME and training products using state-of-the-art advanced distance learning technologies and the internet. The immediate goal is to broaden the availability of the curriculum to both active and reserve component officers, and potentially to senior NCOs as well.

For instance, the Joint Staff has created an interactive CD/ROM, entitled "Joint Force Employment," which is designed to train Joint Task Force commanders and their staffs on joint doctrine. There is also an initiative under way to develop web-based courseware that would be available through a distributive learning center. We are targeting 2003 for implementation of Joint Learning Centers for the CINCs and are considering other ways to further expand the availability of the JPME curriculum. We must also improve joint officer management to ensure the right people get the right education and training while we maximize the number of seats available at the Joint Forces Staff College.

Another important addition to our educational system has been the establishment of the DOD Centers for Regional Security Studies. These centers, which include the Center for Hemispheric Defense Studies, the Near East South Asia Center, the Africa Center, the Marshall Center, and the Asia-Pacific Center, are vital in developing and strengthening regional and bilateral ties, as well as in broadening our understanding of these various geographic areas. They are important tools for expanding our base of knowledge and enhancing our ability to conduct coalition operations and execute the CINCs' theater engagement plans.

Finally, as new technological capabilities are developed, we must also develop the doctrine to use them. This is a fundamental aspect of innovation. Over the past eight years, we have seen the flowering of joint doctrine into an impressive library of joint publications. The Joint Staff has instituted several innovative approaches to make this information more available to users through distribution of a CD/ROM version of the Joint Electronic Library and a web-based approach called DOCNET.

Conclusion

We need to continue to develop and foster innovative thinking in our ranks. Regardless of budgetary and other constraints, our service and joint educational programs must remain top priorities. It is, after all, America's future that we are talking about. Education and leader development are vital elements in the effort to fulfill both short-term needs and long-term requirements. Education must be thought of not as a deviation from a soldier's duty, but a central and continuing focus. That is because it gives us an unbeatable edge in combat, like having additional arrows in our quiver. Education must not only sustain our service competencies, but increasingly it must be directed toward leader development and the necessity for military transformation.

This transformation will not work if it is merely defined by the acquisition of new technology. We must also push the

development of new doctrine and flexible organizations to fully realize the benefits of these 21st-century technological advances. To capitalize on these innovations, and to respond to the opportunities and challenges they present, we must stimulate intellectual development in all of the services and at every level of our joint forces. Without intellectual change, both the development and application of technology will be limited by old ideas. Focused educational programs, aggressive leader development, experimentation with new equipment, innovative doctrine, and streamlined organizations will foster these intellectual changes. These steps are imperative for unleashing a transformation that will enable America's armed forces to adequately respond to future security threats.

We need to commit ourselves to producing high-quality leaders, just as we are committed to producing high-quality ships, tanks, and planes. We will need bright and energetic men and women who will put their education to use as we further develop our new national military core competency--the operational capabilities resident within a Joint Task Force. A major part of this effort will be to broaden "jointness" to formally include the Guard and Reserve, as well as the senior enlisted ranks, while simultaneously driving jointness down to lower levels of command. In this way, joint force commanders will be ready to face the future challenges.

Furthermore, we must remain committed to our technological leadership position, and do all we can to acquire new technologies that will further extend our advantage over those who would threaten us.

Preparation for the unforeseen and the unexpected is a complex task. Planning for war or a contingency must remain primarily focused on what is probable or most likely. Nevertheless, we must also take into consideration the less likely, yet still possible, threat scenarios. This remains our charge and, just as was the case during the interwar period, our education systems play a vital role to fully realize our potential. The men and women who volunteer to serve are driven by a sense of patriotism, duty, and public service. We must invest in these great people, and focus their talents to study and prepare for--as George C. Marshall counseled us--"the first six months of the next war."

NOTES

This article is based in part on remarks presented at the Joint Experimentation Symposium, 27 April 2001.

1. Harry Ball, *Of Responsible Command: A History of the US Army War College* (Carlisle Barracks, Pa.: Alumni Association, US Army War College, 1983), p. 218.

2. In 1941, 99 percent of all flag officers had been through the Naval War College. Michael Vlahos, *The Blue Sword: The Naval War College and the American Mission, 1919-1941* (Newport, R.I.: Naval War College Press, 1980), p. 92.

3. For an excellent overview of how the Germans developed their armored doctrine, see Williamson Murray, "Comparative Approaches to Interwar Innovation," *Joint Force Quarterly*, No. 25 (Summer 2000), p. 83-90.

4. The role of the Naval War College is cited in a number of studies on the development of the aircraft carrier, including Charles M. Melhorn, *Two-Block Fox: The Rise of the Aircraft Carrier, 1911-1929* (Annapolis, Md.: Naval Institute Press, 1974); and Thomas C. Hone, Norman Friedman, and Mark Mandeles, *American & British Aircraft Carrier Development, 1919-1941* (Annapolis, Md.: Naval Institute Press, 1999).

5. Hone, Friedman, and Mandeles, p 33.

6. In 1989, Representative Skelton chaired a panel that conducted a comprehensive review of Joint Professional Military Education. From 1994 to 1997, the Center for Strategic and International Studies sponsored a project, chaired by former Defense Secretary Dick Cheney, which conducted a broad review of the entire professional military education system. See *Professional Military Education: An Asset for Peace and Progress* (Washington: CSIS, 1997).

General Henry H. Shelton became the 14th Chairman of the Joint Chiefs of Staff on 1 October 1997. General Shelton earned a Bachelor of Science degree from North Carolina State University and was commissioned in the Infantry in 1963 through the Reserve Officer Training Corps. Prior to becoming Chairman, General Shelton served in a variety of

command and staff positions in the United States and overseas. He served two combat tours in Vietnam--the first with the 5th Special Forces Group, the second with the 173d Airborne Brigade. While serving as the Assistant Division Commander for Operations of the 101st Airborne Division (Air Assault), he participated in the liberation of Kuwait during Operation Desert Storm. He also commanded the 82d Airborne Division, and he assumed command of the XVIII Airborne Corps in 1994. During his tenure as Corps Commander, General Shelton led the Joint Task Force that conducted Operation Uphold Democracy in Haiti. In March 1996, he became Commander in Chief of the US Special Operations Command.

Reviewed 15 August 2001. Please send comments or corrections to carl_Parameters@conus.army.mil