JFQ | Joint Force Quarterly

Issue 74, 3rd Quarter 2014

Resilient Command and Control

Diversity in PME

Medical Diplomacy

Joint Force Quarterly

Founded in 1993 • Vol. 74, 3rd Quarter 2014

http://ndupress.ndu.edu

Printed in St. Louis, Missouri, by UNIVERSAL Printing Company

Cover 2 images (top to bottom): U.S. Marine Corps Corporal Chester Nez, last of the original 29 Navajo Code Talkers of World War II, receives American flag at Code Talker Hall, Marine Corps Base Quantico, Virginia, April 4, 2014 (U.S. Marine Corps/Kathryn K. Bynum); M249 squad automatic weapon gunner attached to Laghman PRT on security patrol in village home to IED makers and Taliban fighters (U.S. Air Force/Ryan Crane); Sailor assigned to USS *Hopper* greets daughter upon ship's return to homeport at Joint Base Pearl Harbor–Hickam (U.S. Navy/Johans Chavarro).

In this Issue

About the Cover
Capt. Jeffery Thomason, 44th FS pilot, checks his six before a mission recently on Kadena Air Base, Japan. The 44th closed out 2012 with more than 3,000 sorties, logging more than 5,000 hours of flying, and also provided air superiority for 11 countries across three continents. (Courtesy photo by Jake Melampy)

Joint Force Quarterly is published by the National Defense University Press for the Chairman of the Joint Chiefs of Staff. *JFQ* is the Chairman's flagship joint military and security studies journal designed to inform members of the U.S. Armed Forces, allies, and other partners on joint and integrated operations; national security policy and strategy; efforts to combat terrorism; homeland security; and developments in training and joint professional military education to transform America's military and security apparatus to meet tomorrow's challenges better while protecting freedom today. All published articles have been vetted through a peer-review process and cleared by the Defense Office of Prepublication and Security Review.

NDU Press is the National Defense University's cross-component, professional military and academic publishing house.

Submissions and Communications
JFQ welcomes submission of scholarly, independent research from members of the Armed Forces, security policymakers and shapers, defense analysts, academic specialists, and civilians from the United States and abroad. Submit articles for consideration by email to JFQ1@ndu.edu, with "Attention A&R Editor" in the subject line. Or write to:

Editor, *Joint Force Quarterly*
NDU Press
260 Fifth Avenue (Building 64, Room 2504)
Fort Lesley J. McNair
Washington, DC 20319

Telephone: (202) 685-4220/DSN 325
Email: JFQ1@ndu.edu
JFQ online: www.dtic.mil/doctrine/jfq/jfq.htm

3rd Quarter, July 2014
ISSN 1070-0692

Letters

To the Editor: Over 40 years involvement in professional military education (PME) at virtually every level leads to me to applaud the changes under way at the National Defense University (NDU) as described by Major General Gregg Martin, USA, and Dr. John Yaeger in their article "'Break Out': A Plan for Better Equipping the Nation's Future Strategic Leaders" published in *Joint Force Quarterly* 73 (2nd Quarter 2014).

The creation of a common core curriculum and academic calendar is most positive. The first promises to provide students the same joint PME materials and the proper foundation for what the Joint Chiefs believe officers at the war college level need. The second will permit students to take courses and attend presentations more tailored to their needs and interests, which in itself is an innovation that is sure to enhance students' experiences—provided the long periods required for reading, research, and self-study do not diminish. Putting the most expert disciplinary and subject-matter faculty and research scholars in classrooms across NDU, just as the best civilian universities attempt to do, strengthens the quality of education in each college and for every student. Integrating explicit standards for leadership ("Desired Leader Attributes") should provoke discussions that will help prepare officers for the ambiguous challenges that are sure to arise during the rest of their careers. Requiring a thesis is long overdue; the best way to prepare senior officers to recognize mistaken assumptions, inadequate research, sloppy thinking, weak analysis, imprecise writing, and unpersuasive argumentation is to put them through a rigorous research experience. This will arm officers against poor staff work as they rise to higher responsibilities and also permit them to better advise and support their civilian superiors and better implement the resulting policies and decisions. And last, increasing rigor (really, standards) for students promotes more critical and original thinking to the benefit of national defense in every respect.

But three items deserve mention or further discussion.

What puzzles me, first, is the lack of mention of the study of war in the changes under way. Certainly nearly every course at NDU touches to some degree upon war, the understanding of which constitutes the central purpose of all the colleges. But to focus on change without direct connection to the study of war in all of its various manifestations might mislead not only the faculty and administration but the students as well.

Second, to focus the study of war on "lessons from the past decade of war" (the only explicit mention of the subject) seems most unwise. At this early date, there seems little agreement or even much study and discussion of the meaning of our most recent experience. As Mark Twain was reputed to have said, "It's not what you don't know that hurts you. It's what you know that just ain't so." To think that one moment in time, in the long history of human conflict, is more relevant than the larger human experience is almost sure to mislead students, and dangerously so. Indeed to focus the curricula so relentlessly on the future may also mislead them, as though the University, in spite of the enormous talent and expertise of its faculty, can know or even discern the future. Our record as a country in predicting the time and place of future conflict, and its character, has not been good. And finally, to think there are "lessons" (as opposed to insights, or ideas, or suggestions) in human experience lends an authority or even science to the study of the past that historians know to be false.

Third, an expanded focus on students must not come at the expense of time for faculty to keep up in their fields and to pursue their own research. Both are indispensable to excellence in teaching. Furthermore, the University will not attract or retain faculty comparable to the best civilian professional schools unless there is the requirement that they expand their expertise and achieve professional recognition. Without such a faculty, and without emphasizing a continuing effort to find and recruit the best professors, no amount of focus on students, organizational change, or new subjects and standards can maintain a top-quality education.

As the University implements the changes outlined by Major General Martin and Dr. Yaeger, it bears remembering that the United States has faced "an increasingly complex and dynamic security environment" and "severely reduced resources" several times since World War II. When the faculties translate these changes into curricula and courses—and classes, readings, case studies, and the like—they must not abandon the subjects, disciplines, methodologies, and approaches upon which the Profession of Arms, and the formulation of policy and strategy, have always rested. **JFQ**

Richard H. Kohn
Professor Emeritus of History
and Peace, War, and Defense
University of North Carolina
at Chapel Hill

To the Editor: I write in response to the article written by Major General Gregg F. Martin, USA, and John W. Yeager, "'Break Out': A Plan for Better Equipping the Nation's Future Strategic Leaders" in *Joint Force Quarterly* 73 (2nd Quarter 2014). The curriculum changes at the National Defense University (NDU) that the authors outline appear to support a mandate from the Chairman of the Joint Chiefs of Staff with the worthy goal of better preparing future leaders. But the plan essentially takes key elements of education out of the hands of the colleges in the name of a "whole

of University" approach. The authors, the NDU president and its provost, respectively, have the power to institute the changes they propose, but the side effects of their measures could result in confusing or diluting the coherence of each of the five colleges they supervise. Moreover, while they criticize the lack of rigor in the schools' programs, there is scant evidence that any of the civilian professional schools they seek to emulate owe their success to changes instituted or directed from outside the schools themselves. The authors rightly point out the difficulties involved in bringing about the changes outlined, a process of probably 2 or more years to become established at which point both of the two principal proponents, the Chairman and NDU president, will no doubt have moved on.

There is not enough detail on the phases of the new program to comment specifically, but the first phase appears to be the most consequential and also the most problematic. It is most consequential because it contains the joint professional military education (JPME) requirements, the Chairman's Desired Learning Attributes (on gender, ethics, and the profession of arms), and lessons from the past decade of war, following directly the Chairman's guidance. It is most problematic because of the manner in which it essentially takes control of those subjects away from each school's curriculum—as if those subjects were not endemic to each school's mission—and plans to assign as the teachers, subject matter experts, "whether they currently are assigned teaching, research, or administrative duties." On this latter issue, either these administrative and research personnel are not fully occupied in their own jobs, or the concept is to have them pop into the seminars for only brief periods. In either case that part of the proposal is unsound pedagogically and not supportable as a continuing condition, in spite of its seeming allure of involving the best people.

The change proposed by this first phase cannot but negatively affect the morale of the faculties of the five schools and thus their effectiveness. The Chairman's guidance may well have identified key areas that need improvement and additional attention, but if academic change is needed, put people in charge in each of the schools to direct those changes. Instead, the proposal aims to direct change imposed on the faculties by a higher headquarters, all under the hollow rubric of cost savings. NDU is a military organization, but it is one made up of schools, not battalions or squadrons, and it makes a difference. If an objective is to increase rigor and raise academic standards in the schools, reducing their influence and control of the curriculum is not the way to do it.

Finally, changing curricula to maintain relevance is a slippery slope. Every age thinks it is increasingly complex, and it is dangerous to assume the last 10 years presage the next 10. When the authors cite as a common criticism the curriculum as focused "on military history and the immutable principles of war and not enough on critical thinking skills relevant to current issues," they are engaging in rhetoric without much meaning. First, I have no idea what those immutable principles are and who teaches them. Second, changing the focus from history to critical thinking is as false a dichotomy as I have ever heard. In short, the changes outlined have the real possibility of confusing, not enhancing, the education of the students and the role of each of the schools. JFQ

Thomas A. Keaney
Associate Director of Strategic Studies at The Johns Hopkins University School of Advanced International Studies. He was a faculty member at National War College for 10 years.

Chairman awards Combat Infantryman Badge to coalition special operations forces soldier at Camp Morehead, Afghanistan (DOD/Clayton Weis)

Investing in the Minds of Future Leaders

As the Joint Force prepares for the challenges and opportunities of tomorrow, our focus is not simply on military power and platforms. We are laser-focused on leadership. It is the all-volunteer force and its leaders—our people—who remain our greatest strategic asset and the best example of the values we represent to the world.

To deliver the future force the Nation needs, we must develop leaders who can out-maneuver, out-think, and out-innovate our adversaries, while building trust, understanding, and cooperation with our partners. This demands leaders who can think through complexity, who are adaptable and agile, and who can build teams to accomplish missions. Our leaders must also be able to successfully navigate ethical gray zones where absolutes are elusive.

As we chart the course and speed for leader development within the Joint Force, the most direct way to build and reinforce the Desired Leader Attributes is through our military education institutions, including our joint professional military education (JPME) schools.

But we cannot stop there. Being a leader requires a dedication to lifelong learning. I believe that if we are not maneuvering outside our intellectual comfort zone, we are stagnant and falling behind. We can never allow ourselves to be too busy to learn.

Innovation and Agility

General George C. Marshall advocated two things during the interwar years: education and innovation. Because of the demands of the last 13 years of war, however, we have not been signaling that we value education as an essential element of leader development. That is changing. We now describe PME as a significant investment in—and not a tax on—the individual and the Profession of Arms.

To the extent that education is a strategic resource, the investment in our PME programs will determine the effectiveness of our profession and the security of our nation.

For today's leaders, understanding the challenges of the global security environment is not an option. It is not a theoretical exercise. It is our life's work. We ask our men and women to help solve some of the world's hardest problems in its hardest places. The more we understand the history, culture, and power dynamics in play, the better and more enduring the results.

Our charge, then, is to leverage the diverse experiences of our combat-tested Soldiers, Marines, Sailors, Airmen, and Coastguardsmen in our classrooms. We have to keep challenging them with our curricula. And we have to channel their intellectual curiosity into broad-based mental agility that can be applied to an environment that is complex, ambiguous, and uncertain.

Leading Educational Change

Our PME systems have to embrace change or risk irrelevance. We know that a quality faculty is the center of gravity in quality, relevant education. Our educators should be our best and brightest. For our uniformed cadre, we cannot allow schoolhouse assignments to be seen as a career dead end. Rather, these assignments should signal a commitment to intellect dexterity that will be important in higher levels of responsibility. Similarly, we must be able to attract civilian faculty members who have a record of accomplishment in their particular fields.

General Dempsey shakes hands with crew chief of Navy SH-60 Seahawk helicopter at Andersen Air Force Base, Guam, while en route to Singapore for annual Asian security summit Shangri-La Dialogue (DOD/D. Myles Cullen)

This is important because when we consider that we will have to think our way through complex challenges, the power lies in the integration of faculty and student. This juncture is where the big ideas are incubated, fueled by innovative research. Every relationship and every idea matters, especially when those things are applied to the toughest struggles we face today.

Looking Ahead

Drawing down the force, we will not allow ourselves to be both smaller and less smart. We must better match our PME programs with our Desired Leader Attributes and with our experience. As author Clarence Day states, "Information's pretty thin stuff unless mixed with experience." Therefore, we are reinvigorating our commitment to tailored education—exploring how best to adapt our learning institutions to serve the diverse talent of our men and women and to cultivate agile thinkers in a global Joint Force.

For example, at my direction, the National Defense University (NDU) is embarking on a transformation of its JPME programs. We are mapping Desired Leader Attributes to the curriculum to ensure we are delivering them. We are focusing on the professional interests and learning objectives of our students. We are more closely connecting the University to the practitioners of strategic art. The goal is an integrated learning experience—a personalized partnership between the University and the student. By adapting, NDU will remain one of the preeminent senior leader development institutions in our nation. This is not to gloss over the challenges we face in our PME institutions. Change is tricky. At the same time, I am optimistic because of the dedication of our men and women to solve the challenges of today and tomorrow. And I am confident because through these uncertain times, we have men and women who are passionate about learning, leading, and making a difference. **JFQ**

Martin E. Dempsey
General, U.S. Army
Chairman of the Joint Chiefs of Staff

Douglas C-47 Skytrain, known as Whiskey 7, flies over Germany, May 30, 2014. The C-47 came to Ramstein for one week to participate in base activities with its legacy unit, the 37th Airlift Squadron, before returning to Normandy to recreate its role and drop paratroopers over the original drop zone in Sainte-Mere Eglise, France (U.S. Air Force/Jordan Castelan)

Executive Summary

In a recent meeting I had with a senior military leader, the discussion turned to an assessment of where the Armed Forces are today. His view was that while we are ending a long period of combat that has engaged all the Services to varying degrees, we are not likely to return to any kind of peacetime period as in the past. We are more likely to see a far smaller force that is surging while in Phase Zero, or preconflict operations. Many see the Services, running on a wartime footing for longer than any period in U.S. history, as worn out both materially and psychologically to varying degrees—with the Army being in the poorest shape. Yet the remaining force remains highly active in terms of operations to maintain the Nation's defense. Now with continuing budgetary pressures and declining resources from Congress, the Services are making hard choices about what they must do to preserve and evolve the military instrument of power.

As we go to press around Memorial Day, I am reminded of all the past conflicts and personal sacrifices made in defense of the United States. The men and women who have paid the ultimate sacrifice deserve to be remembered by all Americans each year just as they have since the first Memorial Day in 1868. What I think about on this holiday is how to find ways to achieve our nation's defense while doing all that can be done to prevent or at least minimize the loss of Servicemembers in future combat. Success, in my mind, is found in using the best of every Service's capabilities working in concert for the same goal. In short, this is *the* definition of *jointness*. How we work together is something that other nations and groups envy and admire about the American military force. When we don't, everyone asks why we didn't.

What is important to learn is whether scarcer resources in government will result in a force that is less than capable of successfully performing a mission. Equally important is whether the individual Services will see this situation as an opportunity to better cooperate and leverage each other's capabilities. Said another way, along with the ability of the individual Services to organize, train, and equip properly, jointness itself, which is at the heart of effective military power, is at risk. The degree of success going forward will rest not nearly as much in the power of our systems and technology as in the power of our young men and women to seek out new and innovative ways to work together in defense of the Nation. This issue offers a number of insights about how we will move forward even in this time of great strain on the joint force.

In the Forum, we bring you a number of important issues and national-level leaders to speak about them. As frequent *JFQ* readers are aware, we are honored to interview the most senior officers in the Department of Defense (DOD) from time to time. In my interview with Chief of Staff of the Air Force General Mark A. Welsh III, we discuss many of the most serious issues he is working to lead the Air Force and meet all of the needs of the joint force. Since knowing what the future will bring is difficult to predict even for a Service chief, Jeffrey Becker

brings us a discussion of how to view future conflict and war and allows us to at least wrestle with what the world might look like. Michael Johnson and Terrence Kelley then outline what Joint Force 2020 needs to consider in terms of tailored deterrence as a strategy. As a part of the joint force, land power will continue to have a significant impact strategically no matter what conflict the force is engaged in. Kim Field and Stephan Parker provide a description of the use of land forces in the Asia-Pacific region as part of the ongoing shift to that theater. From the commander's seat at Air Combat Command, General Mike Hostage next discusses the need to continue adapting our command and control of air and space forces in a way that best fits the challenges ahead and meets the needs of the joint force. A significant part of command and control of military forces is how we integrate our partner nations into our operations. As the Joint Staff is working hard to assist and keep our friends "in the loop" literally from a communications perspective, Martin Westphal and Thomas Lang discuss the key factors involved in how DOD has developed effective mission partner environments that support our multinational operations.

JPME Today continues to attract important articles that both describe advances in our education of the joint force as well as ideas that can fuel that education in the classroom and beyond. Last issue you heard from National Defense University on its transformation now under way. The U.S. Army War College has also been transforming for the last 2 years. Lance Betros discusses how Carlisle is meeting the Chief of Staff of the Army and Chairman's visions for educating future senior leaders. Adding to the discussion of areas on the delivering of professional military education (PME), Joan Johnson-Freese, Ellen Haring, and Marybeth Ulrich raise the question of sexual diversity on the platforms of our military colleges. As jointness continues as the norm in our operational deployments, understanding what it takes to make joint operations successful earlier in an officer's career is gaining advocacy. Rhonda Keister, Robert Slanger, Matthew Bain, and David Pavlik discuss ways to potentially add JPME to this part of the joint force. As combat operations in Afghanistan wind down, increasing emphasis on how to secure the peace there and around the world has led to the rise of a topic increasingly of interest, security cooperation. William Pierce, Harry Tomlin, Robert Coon, James Gordon, and Michael Marra add to *JFQ*'s discussion of this important topic by linking top-level defense guidance to this mission set.

Frequent contributors C.V. Christianson and George Topic lead off our Commentary section with a short guide to strategic planning, which should become an instant classic to those new to the topic and will no doubt receive knowing nods from the rest of us. From DOD Education Activity (DODEA), Carol Berry and Eurydice Stanley help us see the broader world of education for military members and their families. DODEA helps the joint force in ways both large and small that ultimately make us more capable through increased intellectual power. Returning to the important discussion of sexual assault in the military, Andreas Kuersten provides a deeper look into this issue across the Services with important recommendations that support current efforts. From the Institute for National Strategic Studies' Center for Strategic Research, Nicholas Rostow presents his article on the legal, political, and strategy implications of the practice of targeted killing of terrorists.

Cyber-related topics continue to dominate *JFQ* submissions, and this edition's Features section leads off with another excellent article on that topic. E. Lincoln Bonner describes how cyber capabilities can disrupt an enemy's decision cycle and uses the Russia-Georgia war in 2008 as a case study. Next, the use of weapons in space has always been one of contention. Suggesting a way to deal with the inevitable use of space as a battleground, David DeFrieze offers suggestions on how to set up a regulatory structure to codify the rules of the road. On more traditional battlefields, the issue of how cultural property is treated has become headline news recently with the discovery of lost art in a Munich apartment, which is thought to have been collected by the Nazis in World War II. In more recent times, this issue is continuing to be an important feature of planning and operations in areas of conflict, and Joris Kila and Christopher Herndon provide us with an excellent overview of cultural property protection. Another operation of growing importance is the use of military and civilian medical services in regions of potential or actual conflict. Using their direct personal experiences in Iraq as a model, Aizen Marrogi and Saadoun al-Dulaimi map out how medical diplomacy should be further employed globally.

As with each edition, we bring you the latest thinking on joint doctrine as well as four important book reviews. In joint doctrine, the Joint Staff team of Brian Bass, David Bartels, Samuel Escalante, Dale Fenton, and Kurt Rathgeb provide their insights on how to overcome the continuing challenges in joint interoperability.

From medical diplomacy to better command and control, even in times of such pressure to deliver a capable joint force with decreasing resources to do so, new and interesting ways to meet the mission are constantly being developed. When these ideas are useful and engage people across nations, our government, DOD, the Services, and the teams who make the missions happen, seemingly impossible tasks get accomplished and in turn open up new possibilities for success. Whether the issue is defeating the latest cyber threat or improving how our force is educated, each of these efforts has a joint component that when seriously examined will show that the same power of teams that is fostered in each of our Services is what drives our joint force as well. We owe it to the memory of those who have gone before, to our teammates now, and to those who will follow to constantly seek to improve our ability to work together. That's jointness. JFQ

William T. Eliason
Editor in Chief

Twentieth Chief of Staff of the Air Force General Mark A. Welsh III (U.S. Air Force/Scott M. Ash)

An Interview with Mark A. Welsh III

General Mark A. Welsh III is Chief of Staff of the U.S. Air Force. As Chief, he serves as the senior uniformed Air Force officer responsible for the organization, training, and equipping of 690,000 Active-duty, Guard, Reserve, and civilian forces serving in the United States and overseas. As members of the Joint Chiefs of Staff, General Welsh and the other Service chiefs function as military advisors to the Secretary of Defense, National Security Council, and the President.

Joint Force Quarterly Editor in Chief William T. Eliason interviewed General Welsh at his Pentagon office.

JFQ: *Could you describe what today's U.S. Air Force brings to the joint fight that some might not be aware of?*

General Welsh: Interestingly, it's nothing new as to what we have been doing since 1947. The missions haven't changed since then and I don't anticipate them changing in the future. We still are the only Service that can provide a theater's worth of air superiority, and we are the only Service with the command and control to do it. We are the only Service that brings global [air] mobility and a lot of [air] mobility. We have 130,000 Airmen involved in the global mobility mission every day. We have about 53,000 Airmen involved in theater command and control, ballistic missile defense command and control, and air defense command and control for all the combatant commanders. We have about 35,000 Airmen involved in the intelligence, surveillance, and reconnaissance [ISR] enterprise 7 days a week, 365 days a year. And they are doing tasks for the United States in every theater of conflict—everything from collecting data to flying sensors to flying platforms with sensors on them to moving data and information through the distribution system to the right decisionmakers at the right time. These things are sometimes in the background, but without them nothing else happens in the joint fight. In addition, many also don't see the two legs of the nuclear triad that we operate every single day with about 25,000 great Airmen. Accordingly, a lot of what the Air Force brings to the fight is not very clear until you get to a very high-end tempo.

One of the benefits of having an Air Force that can provide unparalleled air superiority is that you get statistics like this: Since 1953, 7 million men and women have deployed to contingencies around the world and tens of thousands have given their lives in service to the Nation. Not one of them died from a bomb dropped from an airplane. Air superiority isn't something you can assume away. It is something you have to earn, and we've been earning it for a long time.

JFQ: *One of the most discussed operational-level topics in recent years has been Air-Sea Battle* [ASB]. *Can you talk about how that effort with the Navy is developing and its relationship to the strategic rebalancing of our forces to the Pacific?*

General Welsh: What Air-Sea Battle is to me isn't as much a rebalancing to the Pacific; it's more of a rebalancing of thought, of acquisition, and ultimately of equipment, tactics, and thinking to an environment in the Pacific, which is an environment where air and maritime forces will participate more and more together. But it's not focused on the Pacific. It's focused on an environment. Threats are getting more sophisticated. For example, detection ranges of radars are increasing. Sensor ranges on aircraft and ships are increasing significantly. Weapons ranges that are tied to those sensors are also increasing, so we have to figure out different ways to get into the threat environment and different ways to defeat it. Moreover, if there are areas where the Air Force, Navy, Marine Corps, or Army are going to be working together so we can extend our own sensor ranges—that is, extend our own ability to engage from a distance—then we've got to be focused on that capability. That's what Air-Sea Battle is. It's changing the way we think about developing those abilities. The good news is it's being addressed by all four Services. All four Service Chiefs are talking about how we can better integrate ASB.

As far as the Air Force is concerned, AirLand Battle never died. We must continue to develop our capabilities and work with the Army, Navy, and Marine Corps too with the right kinds of equipment that connect correctly, and focus on the right types of training so we can use air most effectively in every scenario we might face.

JFQ: *Although often mentioned as the most expensive program in the history of the Department of Defense, how important is the F-35 to the future of joint and coalition warfighting?*

General Welsh: It's critically important. I mentioned the importance of air superiority before. When we capped the F-22 at 187 airplanes, about two-thirds of those are operational airplanes. That's not enough to provide air superiority over a theater of operations in a high-intensity conflict. So we're going to have to augment it with something. Right now it's with our current F-15 fleet. We are going to have to use the F-35 to augment the F-22 fleet in the air-to-air arena. That wasn't the original plan. If you'll remember, the game plan was to have two complementary capabilities—the F-22 was for the air superiority mission and the F-35 dismantled the integrated air defense system [IADS] and conducted the initial ground attack in a tough environment. But now the F-35 is going to have to do both missions. Additionally, the abilities it will bring from a stealth perspective, a sensor perspective, a data integration perspective, and a weapons delivery perspective are absolutely essential to operating against IADS and against the kind of air threat we expect 10 years from now. There's a reason other countries are developing what they call fifth-generation fighters, and they are going to be more capable than what we have on the ground right now. We need to continue to move forward or lose the technological edge, and then we will lose more people in air-to-air combat. The F-35 is essential to what we are going to do.

We don't want a fair fight. If we are going to commit the sons and daughters of America to conflict, I want it to be a runaway, and we should win every game 100-0 as far as I'm concerned. It's really the Nation's choice, but if you want to be able to fight the high-end fight you have to have high-end gear.

JFQ: *How have the ongoing budget pressures affected how the Air Force operates today and its plans for the future of the force, and what steps are you taking to mitigate these fiscal issues?*

General Welsh: If you look at the sequester's level of funding over the next 10 years, it will drive us to get smaller. We also have to keep the force balanced as we get smaller or we will not be able to train and operate as an Air Force. Having more force structure than you can afford makes no sense at all. Therefore we have to look at, for example, what mix the Air Force has in the Active and Reserve components. You have to decide between modernization and readiness and then figure out where the balance is. You have to have both. You have to be ready to fight and do what the Nation needs us to do, and you have to be modernized and capable and viable as a threat to be able to do that 10 years from now.

JFQ: *Recently, all the Services seem to be dealing with a constant drumbeat of negative events, from toxic leaders to cheating on nuclear testing to sexual assaults. Would you talk about your efforts to deal with these behavior-related issues in the Air Force?*

General Welsh: All we can do is hit this head on. We need to take an honest look at ourselves in the mirror. As long as we continue to do that we will be fine. There are going to be disagreements between the American public and the Services as to what is right, appropriate, legal, and illegal on any given incident because everybody won't have the facts straight. The most important thing to do when we have an incident is to get the facts straight and then figure how to deal with it from there.

Sexual assault is a major issue for all the Services. The fact that it is a major issue in society at large doesn't change the fact that we have to deal with our problem first, and I believe we should lead the country on this issue. We have all the tools to do it. We have an education system, a training system, and a legal system. We have people who care and are engaged to help. We've got victim care, medical care, and psychological care. We have all the tools to do this better than anyone else. We've got a very active and engaged partner on this issue with the U.S. Congress including staff in the Department of Defense—and especially the Secretary of Defense. We've greatly expanded our Sexual Assault Prevention and Response [SAPR] office at the Air Staff level. We went from a small staff to 34 people in our

780th Test Squadron member Dale Julio briefs General Welsh and General Janet Wolfenbarger, Air Force Materiel Command commander, about Small Diameter Bomb II test progress and findings at Eglin Air Force Base (U.S. Air Force/Samuel King, Jr.)

office who are going to manage this for the Air Force. The SAPR office includes subject experts, metrics professionals, behaviorists, former commanders, and legal counsels, among others, so we can look at this problem from many different angles. We also are able to connect with a lot of different groups that have expertise in the problem. We have had a lot of success in this arena, but we will never be satisfied until we are down to zero sexual assaults. Therefore, we've got to keep looking for game-changing actions in every part of the spectrum that affects this horrible crime: from screening people before they join the Service, to educating people and training them once they are Servicemembers, to preventing the crime itself, to handling the reporting of victims of the crime—that is, making them feel more comfortable to report—to making sure they get the post-incident care they need. One successful program is the Special Victims Counsel program, which has had a major effect on the willingness of victims to continue to trial and to participate in prosecutions. The goal is to come to the right legal outcome on every case. Anybody who doubts the sincerity of our effort just needs to go to any base in the Air Force and start talking about this subject.

I'll give you some examples of the change in approach to sexual assault. Over the last year our reporting is up 76 percent inside the Air Force, and it's about 60 percent across the Department of Defense. Conviction rates are up. Prosecution rates are up. People in the Air Force—commanders and senior noncommissioned officers—can talk to you knowledgeably about this now. They now know a lot more than they did before. They understand victim behavior better—not well enough, but better. Before we started the Special Victim Counsel program, 13 percent of the victims who reported under the Restricted Reporting program, which meant we couldn't investigate, would change to Unrestricted Reporting and allow us to investigate. Of those who now have Special Victims Counsels assigned to them, 50 percent are changing to Unrestricted Reporting so we can press forward with investigations and prosecutions.

Another significant issue is the cheating incident in the nuclear business. We

are trying to determine whether it was a systemic problem or a onetime occurrence. What caused it other than people just stepping away from integrity? What led them in that direction? We have to be willing to be honest with ourselves about what causes these issues, and then change as an institution to keep it from happening again.

When it comes to general officer behavior including toxic leadership and ethics, last year we instituted a new 360-degree assessment for these commissioned officers. The Army has a good working model for assessing general officers, which we adopted with some adjustments. We went through a full cycle and we will adjust it again this year. The goal is to expand this to wing commanders, Senior Executive Service members, and command chief master sergeants. The idea is to find some of these toxic leader indicators before someone becomes a senior leader in the Air Force.

JFQ: *Can you discuss the importance of modernization efforts such as the new air refueling tanker, the KC-46, and the next generation bomber for the future joint force and how they will fit into future defense budgets?*

General Welsh: First of all they *have* to fit. We looked at the balance of readiness today versus modernization for tomorrow. As topline budgets come down, how do we balance capability, capacity, and readiness? We had to make a fundamental decision that modernization is not optional. We have to modernize to be competitive as an Air Force. Once that decision was made, the next step was determining what needed to be built new versus modernized by upgrading or adding more capability. We found three areas that we have to recapitalize. The first is the F-35, which we have already discussed.

The second is the KC-46. Our tanker fleet is the lifeblood of American military mobility. One of the fascinating things about our job is that I have never heard the question "Can we get it there?" Not once. This is a huge compliment to everybody from the U.S. Army's Military Surface Deployment and Distribution Command, the Navy's Military Sealift Command, U.S. Transportation Command, and most certainly Air Mobility Command. We're confident we can get fuel, supplies, and aeromedical support to troops anywhere in the world because we have great professionals who do this unbelievably well. But the lifeblood of the whole effort is air-refueling capability. Operations *Odyssey Dawn* and *Unified Protector* in Libya didn't happen without air refueling. None of the air operations over Afghanistan or Iraq happened without air refueling capability. When we buy the last of 179 KC-46As, we'll still have more than 200 KC-135s that are 65 years old or older. That's just insane. We have got to recapitalize the rest of the mobility fleet, and the KC-46 is just the start. That was the KC-X program. We still have the KC-Y and KC-Z programs to replace our entire tanker fleet. This isn't optional. We have to replace our tanker fleet.

Third, we believe that if the mission of the U.S. Air Force is to be able to fight and win a high-intensity air fight along with our joint forces, then we have to recapitalize the bomber force. analysis shows we need about 80 to 100 bombers to be able to provide nuclear deterrence as a part of the nuclear triad and to support the sortie rates required in a large-scale conflict. We have 20 B-2s that will survive for decades. In addition, we have a B-1 fleet that is a part of the solution, but it probably won't survive past 10 to 15 years. It's kind of like the Swiss Army Knife of combat aviation—it's doing it all and doing it well, but it's not the long-term solution. We also have B-52s, which will age out some day. You really can't keep flying them until they are 100 years old, and even if we could, we shouldn't. We have got to look at a bomber fleet of 80 to 100 because that's what the operational analysis shows we need. To accomplish this we need to buy the long-range strike bomber. That program is on track to deliver aircraft in the mid 2020s.

Those are the three modernization efforts. They are fully funded except where sequestration cuts made it impossible to buy as many F-35s as we wanted during this particular cycle. But we are close and we will continue to emphasize those to the top of our budget profiles.

JFQ: *What is your plan for modernization of the ICBM* [intercontinental ballistic missile] *fleet?*

General Welsh: Right now we have a line in our budget to start the groundwork for the next generation of ICBMs. We think that by 2030 we must have a program to replace our current ICBMs. Somewhere in that timeframe we need to be building and fielding a new ICBM platform, or a new capability to take its place. Right now we are looking for a replacement for the Minuteman III ICBM. All the things that go into the nuclear enterprise—the weapons recapitalization requirements, the nuclear command and control and communications requirements—have to be examined over the next couple of years to make sure that it's affordable under sequestration levels for the next 10 years.

JFQ: *Concerns over preserving existing systems including one you flew in your career, the A-10 attack aircraft, seem to have added to the fiscal pressures you face in your Title 10 responsibilities. How is the Air Force dealing with these dual pressures of modernization and readiness of the force? For a number of reasons there are people who want them to stay.*

General Welsh: I am one of the people who love legacy systems. The problem is we can't afford them. We don't have enough money for everything we would like to keep, so the question is how do we save billions of dollars—and we are talking about billions of dollars per year, not millions. Just 3 years ago, when we submitted the FY12 [fiscal year 2012] budget, the planned budget amount for FY15 was $20 billion higher than what we submitted this year. The sequestration decrement in our planning last year was over $12 billion. We've got to make significant cuts. This is what sequester-level funding means. Furthermore, we

understand that we have to be a part of the national-level effort to cut the deficit. We are going to have to cut things we don't want to cut in order to be capable, credible, and viable 10 years from now.

One of the problems we have right now is that for the last 14 years all we have done is close air support [CAS]. Everybody is very aware of what is going on in the CAS arena and they are focused on platforms that support it. That's why they are beloved. But the issue isn't close air support. Close air support is a mission; it's not a specific aircraft. We can do it with lots of other airplanes as well. Since 2006 nearly 80 percent of the sorties have been flown by other airplanes. The A-10 is a fantastic CAS platform. If we can afford to keep everything, we should keep the A-10.

JFQ: *What did you take away from the Air Force's recent experience in readiness cutbacks given continuing budget pressures?*

General Welsh: Readiness degrades in a hurry. When you stand squadrons down, it's not a straight line—it drops in a curve. You're less ready for a while, then you become really less ready, and then you become completely unready. It's not just people, pilots, or ground crew. It's the maintainers—the airframes themselves. It's all the people in the background who keep that running. The depot systems are affected; the work forces in the depots are affected; your working capital funds are affected; and all of those things take time to reconstitute and reenergize. When you start affecting readiness by cutting things like Red Flag [exercises] and weapons school classes, you don't get those back. You have a gap in that Ph.D.-level warfighter force for the rest of that career time period, maybe 20 years or so. Readiness is a problem for us. The impact on people surprised me a little bit because, frankly, I hadn't thought about this aspect until I saw it. Our people really like being the best in the world at what they do. They're proud of it. They work hard to be that kind of Airman. And if they don't think they can be that person because they're not going to have the funding to develop their careers, to be professionally educated, to be trained, to be ready to go—they'll walk. We can lose an awful lot of things in the Air Force and stay successful, but if we lose Airmen, we're done.

JFQ: *What have you learned from the Air Force's commitment of a great deal of resources to field Unmanned Combat Air Vehicle capabilities in support of joint and coalition operations? Will the joint demand for these capabilities continue to drive Air Force requirements for these systems?*

General Welsh: We have learned over the last 14 years that we can manage a very large, diverse global ISR [intelligence, surveillance, reconnaissance] enterprise, and we can do it well. What we need to learn is that the ISR force structure we have today is not the ISR force structure we need for the future. We're working toward 65 orbits of RPA [remotely piloted aircraft] support based on the environment in Afghanistan and Iraq. This includes a lot of small squad support, unit-level support, high-value targeting, and pattern of life development. These kinds of things drive a large number of requirements—large dwell requirements that drive you to do business in a way that is aligned to that environment. That is not what we need in the rest of the combatant commands. Taking 65 orbits for what we had in Afghanistan and moving them to U.S Pacific Command [USPACOM] is not what the commander of USPACOM needs. How do we transition our ISR enterprise from what we have, which is exactly right for the fight we are in, to the right ISR enterprise for the fights we could face in the future? While not forgetting the lessons we have learned, we must focus on where to put our ISR enterprise. Do we put it in Special Operations Command and AFSOC [Air Force Special Operations Command]? We think we should. We need to "plus up" a little of that capability for the small unit squad support for the counterterrorism fight. But we need to be developing an ISR enterprise that is more what the commander of USPACOM or the commander of U.S Southern Command might be looking for in scenarios in their theaters.

JFQ: *All the Services will see significant reductions in personnel in the next few years. How will this affect your ongoing efforts to develop the Air Force's Total Force Integration?*

General Welsh: We're working Total Force Integration pretty hard. If you jump on the Jackson, Mississippi, [Air National] Guard's C-17 Air Medical Evacuation run every week to Al Udeid Air Base [near Doha, Qatar]—picking up wounded warriors along the way to return them to Ramstein Air Base and back to the United States—you are going to see a Guard aircraft and a Guard crew, a Reserve medical detachment caring for Servicemembers, and an Active-duty Critical Care Team caring for critically wounded warriors. That's what it looks like inside an airplane. That's the way the Air Force operates at the front end. And that's exactly the way it ought to operate. The key for us in the back end is to make it look like that here on the Air Staff, too. We have worked hard over the last year on a process we loosely called the Total Force Task Force. This group was charged with determining the way ahead for a better Total Force Integration and how we would institutionalize it in the Air Force.

We have looked hard at every piece of our force structure and determined how much we can move into the Reserve component. If we can be more efficient and stay operationally capable and credible moving to the Reserve component, why wouldn't we? We've also looked at a lot of other integration activities. Right now we have a beta test going with a single personnel office at three different bases: Pease [National Guard Base], Peterson [Active AF Base], and March [Reserve Base]—one Guard, one Active, one Reserve, and a single personnel office manages all three components. We call it the "three in one initiative." If it works, we'll spread it to other bases where we have all three components.

We brought in our first deputy director on the Air Staff—an Air Force

Officers with 5th Bomb Wing at Minot Air Force Base in lower deck of B-52 Stratofortress (U.S. Air Force/Lance Cheung)

Reserve two star. We should be taking from the entire force the best talent to fill the highest positions we have in the Air Force and that requires a big commitment by the Guard and Reserve to keep those people current, active, and qualified for these kinds of jobs. We are looking at integrating everything we can so we can develop officers who are assignable across these lines. We are looking at removing the restrictions to common sense application of Guard, Reserve, and Active-duty manpower and activity.

JFQ: *What is your view of space and cyber as a part of the Air Force's mission going forward?*

General Welsh: The only thing that's changed in the U.S. Air Force mission statement since 1947 is the term *space superiority*. Now we have air and space superiority, which I don't think the President imagined in 1947. We do all of those missions now, or should be looking for how we could do those missions, in three dimensions, not just one. Cyber isn't a mission—it's a domain like air and space. So we do command and control in and through the cyber domain; we do ISR in and through the cyber domain; we do strike in and through the cyber domain. Someday, we will be doing precision airdrop of data in the cyber domain. We will be doing armed escort of data in the cyber domain. We will have to provide cyber superiority in a particular region of that domain to operate there. All the mission concepts we have in our five mission areas apply in both cyber and space. But ISR is still ISR, whether you are collecting your information through the cyber domain or a sensor through the space domain, or if you are doing it off of an airplane in the air domain. The mission is what's important. Over the next 20 to 30 years, how we do those missions will change.

One of the interesting things to watch is the ratio between the domains of where we do this mission. I can imagine more missions shifting to the space and cyber domains until eventually they become either virtually contested or congested to the point that we are going to have to come back to the other domains until we come up with a technological solution to the congestion. That debate and discussion inside the Air Force are what we are trying to drive. How do you move missions between domains? How do you balance these different domains? Will this cost more money?

When you talk about the missions we support in joint warfighting, just think of those 25,000 people we have in the space arena who are doing everything from precision navigation, precision timing, secure communications, missile warning—all the things that are enabled by the assets we operate in space that the joint force has just come to accept. But it's all transparent, and we play a role on the national side of the house in the cyber domain just like all of the Services.

JFQ: *The Chairman of the Joint Chiefs has directed a refocused effort for improving professional military education, especially in areas of leader development*

and professional ethics. As a graduate of National War College, how would you assess that experience, and have your joint assignments influenced your career and your views of jointness today?

General Welsh: The most important thing I learned at Fort McNair is that I'm not smart enough. The conversations we had there about national security, national security policy, the world stage and all of the actors on it, activities that these actors conducted, and the motivations behind those activities just left me feeling like I didn't know enough about that stage, about those actors, and about those activities. So it drove me to learn more about the agencies inside our own government because there really are no unexpected issues in the interagency. If you take the time to understand the other agencies, their positions will never surprise you. That's a way to keep emotion out of the discussion. We shouldn't be astonished about the way the Air Force does business. There's a reason it does business the way it does. There's a reason the Army and the Navy do things the way they do. There's a reason the Defense Intelligence Agency and the Central Intelligence Agency [CIA] operate the way they do. The National War College gives you that opportunity to learn because you are side by side with people from all these organizations in the Department of Defense and other parts of government. Once you get to know them, you'll find they are great people whom you can trust and count on. Their environments, tasks, and orders are different. The things they are focused on are different. That doesn't mean they are bad, evil, or unhelpful. It just means that they have a different job. The more we understand that concept, the more we can explain our own organizations when things aren't going the way they should. That's the biggest thing I took away from the National War College. Everywhere I've been outside the Air Force, I've learned something that has helped me. When we talked about the A-10 issue a few moments ago, it's not about A-10s or CAS. It's about balancing across the mission areas.

At the Army Command and General Staff College, I attended its tactics course, which is the single best professional military education course I've ever attended. In tactics, when they talk about what airpower brings to a ground force commander or a joint force commander, there are a couple of really important points. Close air support is not the way we reduce most losses on the battlefield. CAS is important, critical to understand, and personal, but it's not the way to save huge numbers of Servicemembers on the ground. That's done through *air superiority*. When you provide freedom from attack and freedom to attack, you eliminate the enemy nation's will to fight and it shortens the war—including strategic bombardment, deep interdiction, destroying their infrastructure and their command and control capability. You eliminate the enemy's second echelon forces including their operational reserve so they cannot commit at the time and place of their choosing, which causes a huge impact on friendly forces. Those are the things you do to really affect the ground fight. A-10s don't do those things. But F-16s, F-15Es, and B-1s do. That's why the operational analysis showed we could give up the A-10. Those other platforms can do CAS, although not as well as the A-10, but they are really good at those other concepts.

I worked for the CIA for 2 and a half years and I loved every day. The agency has a different way of looking at every problem. It taught me that there are other solutions than those in uniform will think through, and there are incredibly talented and gifted people trying to make those solutions a reality. We just don't understand or know what they are doing every day, but it can be an incredibly complementary capability. I worked at the North Atlantic Treaty Organization for a while as one of the air commanders. What a fascinating experience that was. Alliance officers were no less patriotic to their own nations, no less committed to the defense of their country, no less dedicated to doing the job as well as they could. They just see the job differently sometimes, and they don't have the resources that the United States military is blessed with. It doesn't mean they aren't great partners. It doesn't mean they won't stand and die beside us, as they have in Afghanistan. It just means we have to approach them in a different way. They will be there when we need them. They have proven that. I believe that every time I do something that is outside of the mainstream, I learn something that makes me a better officer and a better person, and it certainly gives me a better understanding of the objectives of the Nation.

JFQ: *Do you have any regrets about things you have been unable to do in this job?*

General Welsh: This is a hard job to prepare for. I think any Service Chief will tell you two things. First, you are always going to be doing different things than you thought you would because the situation to some extent drives what you can do to be successful. My time has been spent drawing down a conflict and drawing down resources. My job is to make sure that the Chiefs two and three cycles down the road are well configured to be reasonably successful when we grow the Air Force account or when we modernize on the next cycle. Every Chief, when they walked in the door, has had issues to face that were unexpected, and they had to adjust to them. Second, it is impossible to relay just how deeply you feel about everything that affects the people in your Service. This is a weird thing that I know all the Service Chiefs share. I don't think someone can really feel this unless they are in the chair.

I want to add that, in this job, you get to do things that are unbelievable honors. I spoke at General David C. Jones's [former Chairman of the Joint Chiefs] memorial service. I spoke at Robbie Risner's memorial service. I shook hands with the three Doolittle Raiders at their final toast. It is unbelievable the things we as Service chiefs get to do on behalf of the men and women of our Services. So when people say, "Well, tough job" or "tough times," there is never a bad day to be a Service chief. It is such a privilege. It just is. **JFQ**

This interview has been edited for brevity.

U.S. Navy MH-53E Sea Dragon helicopter takes off from forward staging base USS *Ponce* during International Mine Countermeasures Exercise 13 (DOD/T. Scot Cregan)

Contexts of Future Conflict and War

By Jeffrey Becker

As "location, location, location" is the central truth that unlocks the mysteries of property valuation, so context, context, context decodes the origins, meaning, character and consequences of warfare.[1]

Jeffrey Becker is a contract Defense Analyst with the Joint Staff J7, Future Joint Concepts Branch, and a Consultant for the Naval Postgraduate School.

The future is never fully knowable. Making sense of the changing security environment and what it means for the future joint force depends on our collective ability to discern and select those key environmental conditions that influence how conflict is conducted. Appropriate mental models of the future require a coherent view of what issues are important, the relationship between causes and effects within these issues,

and understanding how a diverse set of issues may be linked or otherwise connected. Without these structured mental models—that is, theories of what attributes of the environment are important in war—military change seems to be a ceaseless flow of disconnected, causeless happenstance and chaos.[2] For the defense futurist, this leads to the unenviable position in which terms such as *uncertainty* and *complexity* are among the few guideposts for developing tomorrow's joint force capabilities.

To prepare the joint force for the future, however, these terms are wholly inadequate. As General James Mattis, USMC, noted in *The Joint Operating Environment 2010* (JOE), "it is impossible to predict precisely how challenges will emerge and what form they might take. Nevertheless, it is absolutely vital to try to frame the strategic and operational contexts of the future in order to glimpse the possible environments" where joint forces might be employed.[3] The JOE was the last attempt to present a coherent picture of the operational contexts that future joint forces would likely encounter and should prepare to address. An operational context anticipates a broad set of military challenges that are not limited to particular adversaries and "stock" planning scenarios.

In his *Chairman's Strategic Direction to the Joint Force* and in numerous written speeches and congressional testimony, General Martin Dempsey has repeatedly challenged the joint force to adapt to a dangerous and unpredictable security environment.[4] However, we have not collectively developed a mechanism that provides the necessary level of understanding to bridge the yawning intellectual gap that exists between observing and projecting individual trends within the international environment and developing a set of sharp, focused military challenges that will lead to a successful joint force. If we are to build a force that can be, in the Chairman's words, built and presented and molded effectively to context, we must understand what *context* truly means.[5]

What follows is a brief description of the inadequacy of trend observation and analysis (our most common tool) for defense "futuring"—that is, trend observation and projection. This approach to futures too often results in a gap between individual *trends analysis*—defined as the examination of a trend to identify its nature, causes, speed of development, and potential impacts—and the necessary degree of synthesis and combination required to understand how the world is actually changing. Next, to bridge this gap between trends and more focused, actionable military challenges, I propose a set of contexts of future conflict and war that brings together a number of trends and illuminates where and how the future joint force could likely be employed. By focusing on combinations of trends in this way, the joint force would be primed to develop capabilities responsive to a broad but closely related range of likely threats and challenges. A common set of contexts of future conflict and war could leverage extensive trends studies conducted across the National Intelligence Council and defense research institutions, while future joint force development activities could focus more precisely on describing the essential adversary combinations that could confuse and confound future military operations.

We will always be surprised by specific world events. Crafting focused future military challenges derived from a thorough understanding of context, however, would more likely result in a *truly prepared* joint force.

The Trend Is Not Our Friend

In the defense futures business, trends are everywhere. Moore's Law, the proliferation of autonomous systems, the "rise" of China, and the emergence of cyberspace and the social media are examples of our innate desire to pattern the emerging future on historical memory and (recent) lessons learned. Trends analysis—properly applied—is useful because the technique takes advantage of history, which is the only actual set of data about the world available to us. However, this leads to perhaps a degree of overconfidence as we then project these discrete elements of the future environment months, years, and even decades forward.

All too often, military futures studies spend too much time and space on descriptions of individual trends, leaving combinations of trends and military implications—the meaning, character, and consequences—derived from trends as (at best) an afterthought. As a recent Center for Strategic and International Studies report noted, a trends-focused approach to projecting future military demands on current conditions frequently ends "in mirror imaging, where an adversary's desired methods and U.S. military priorities are perfectly aligned, providing fertile ground for surprise, shock, and miscalculation."[6] To compound the situation, approaching possible futures in this way suits Service core competencies and comports with traditional, familiar warfighting concepts because trends are easily categorized, modeled, and wargamed. Moreover, because of selection bias, these trends more readily conform to complex Department of Defense acquisition processes.

Frequently, the result of an overreliance on trends means that projected future military demands are overly determined by current conditions, capabilities, and concepts. The ultimate result, however, is that this type of approach tends to privilege the capabilities we desire over the capabilities that we might need in the future. Without a mechanism to bring together multiple trends, we become "target fixated" on those related to missions and environments in which we *prefer* to fight.

Because a number of organizations (both inside and outside the U.S. Government) publish documents focused on examining large-scale strategic trends, future joint force developers should focus a greater portion of their intellectual energy on developing a more focused perspective on how trends intersect and implications of those intersections. For example, the National Intelligence Council's *Global Trends 2030* series, as well as numerous international and think tank–derived futures documents, provide this type of extensive and comprehensive

examination of relevant strategic trends and should be leveraged by the future joint force development community.[7]

But trends analysis is only a partial tool. An overreliance on patterning the future on historical experience and the singular focus on individual issue areas inherent in trends analysis blind us to the larger context in which national security and defense futures play out. Trends analysis is the more difficult and less-traveled path.[8] A successful picture of the anticipated future security environment depends on moving beyond a simple recapitulation of trends and building a thorough discussion of the implications of combinations of trends and the context within which future war might be fought. We must, in the words of General Mattis, apply "the imagination and ability to ask the right questions."[9]

Joint concepts examine military problems and propose solutions describing how the joint force, using military art and science, might operate to achieve strategic goals.[10] Trends are not in and of themselves "military problems," though they do provide the raw materials out of which focused future military problems can be built. Again, to derive these challenges in a more plausible way, we must move beyond trends and focus on combinations in conflict and war.

The Importance of Combinations

The world does not present military challenges in tidy packages, as suggested by a focus on individual trends and their extensions into the future. In reality, security challenges result from the collision of a range of factors. For example, while globalization serves to raise hundreds of millions of people around the world out of poverty and misery and into longer and more comfortable lives, greater wealth around the world also translates into the potential emergence of competitor states with new and powerful military capabilities. Greater wealth and comfort for some could also translate into greater demand for scarce resources, including food, water, and energy, raising prices and causing instability, civil conflict, and government failure in areas already living on the edge of subsistence.

Soldiers of 6th Battalion, 52nd Air Defense Artillery, demonstrate Patriot missile reload during visit from General Curtis Scaparrotti, commander of United Nations Command, ROK-U.S. Combined Forces Command, and U.S. Forces Korea (U.S. Army/Heather Denby)

The adversaries who are evolving in this environment are increasingly cunning, brutal, entrepreneurial, opportunistic, and adapted to the globalized and connected world. They study our actions and can be counted on to avoid our strengths. A world of greater freedom, free exchange of ideas, and rising living standards are key goals of U.S. strategy and a generally positive development in the world. But such a world unbalanced by the lack of mutual recognition, just international norms, and common legal and moral norms might contribute to new failed states, more ungoverned spaces, uncontrolled refugee flows, and

the emergence of transnational ideologies that seek to disrupt the international order and domestic U.S. tranquility.

In this environment, adversaries will operate in places where we may not expect or prefer. They will often seek to base themselves in locations that are not strongly governed or claimed by states and will connect with one another across the global commons. They will operate in vast urban settings where dense population, built-up terrain, and transportation and communications networks intersect, and they will make it difficult to discriminate between civilian and military personnel and assets. They will place some assets in places with legal frameworks that hinder the ability of the joint force to operate and engage, including within the United States itself.

High intensity conflict in this environment will feature powerful state adversaries with the capacity to combine conventional, unconventional, and irregular warfare while bringing to bear the full panoply of national capabilities ranging from lawfare, cyber attacks, and considerable economic and diplomatic powers to achieve victory. High intensity conflict will feature militaries capable of complex combined arms operations, as well as lethal offensive threats. These conflicts will engage U.S. allies and disrupt the ability of the future joint force to move within operational reach of the adversary.

The United States has been conditioned to operate against threats that are content with waiting us out, hiding, and resisting long enough for us to lose interest. Future adversaries engaged in high intensity conflict might not content themselves with simple deterrence and survival, but rather may seek to compel the United States and its allies to surrender territory, resources, or other global positions of advantage. This high-end asymmetric threat could take the initiative, be far more active, and seek victory on its own terms rather than simply surviving.

Within this environment, unexpected coordination could exist among many potential adversaries, complicating the crisis response and decisionmaking capability of the U.S. military. Financial links among states, terrorists, and transnational and cyber criminals all create loose networks of common interest that encourage lawless or undergoverned areas from which global terrorist threats emanate. Adversaries share military technology and capabilities and have access to an "arsenal of autocracy," including cheap and effective military capabilities developed by Russian, Chinese, and North Korean arms manufacturers. Perhaps more important, adversaries share with one another their understanding of the strengths and weaknesses of U.S. military power and may coordinate activities globally to complicate the global response activities of the joint force. Taken together, connections mean that threats will frequently transcend tidy categories, cutting across land, sea, air, space, and cyberspace, while being distributed across military domains and/or reaching across broader geographic range and scope.

When viewed through this lens, the insufficiency of trends analysis becomes clear. The unexpected nature of these intersecting threats, challenges, and opportunities allows our adversaries to hit and exploit the mental seams and gaps we have (bureaucratically) constructed for ourselves. We will never be able to precisely define each potential combination of threats in advance. History should make us very humble about our ability to predict the future.

Contexts of Future Conflict and War

How should we synthesize trends and make sense of the potential array of novel combinations that could make up the future operating environment? I propose five contexts of future conflict and war as a starting point. Together, these closely linked future mission sets embody evolving forms of military competition and are implied by a connected and interrelated set of military challenges. In the future operating environment, the joint force must be prepared to apply or threaten the use of military force across each of these contexts successfully.

The contexts of future conflict and war—those groups of "like" missions—that future joint force development efforts should consider include:

- contesting ideological conflict over global networks
- defending the homeland and providing support to civil authorities
- ensuring access to and protection of the global commons
- protecting forward bases and partners or controlling key terrain
- stabilizing or isolating failed and failing states and ungoverned spaces.

Although the specific threats are uncertain, each of these represents a set of conditions and evolving adversary capabilities and approaches the future joint force can expect to face. The importance of each context varies depending on circumstances, but all will be present in future operations to a greater or lesser degree. These contexts are designed to assist in developing these expectations about where and how future war will be fought.

Contesting Ideological Conflict over Global Networks. National borders that are highly permeable to trade, human migration, information technologies, people, and money mean more avenues for ideas, images, and concepts to propagate. Simply put, the joint force will be tasked to engage adversaries working to build networks around sets of ideas—ideologies—that are forged and disseminated within cyberspace with the goal of the systemic disruption of states and their supporting systems. These adversaries seek to carve out their own autonomous zones—not only in specific territorial areas but also across the Internet.[11]

These networks, though reliant on the Internet, do live in the physical world and can be reached. Globally networked adversaries often engage in "state-like" behavior including governing territories, regulating trade, taxing, and conducting military operations within and across state boundaries, much as Hizballah does in Syria today. Some emergent protest networks have displaced (or nearly displaced) existing governments including in Egypt,

Libya, and the failed "Green Revolution" in Iran. Others, such as al Qaeda, are busily constructing affiliations and structures and disseminating their myths to ready audiences.

Today we see strong hints as to the disruptive nature of networks opposed to hierarchies in economics and media, but this dynamic will be increasingly prevalent in military operations as well. For example, the worldwide availability of cell phones to billions around the world will have profound consequences for the joint force. Armed with cheap and widely available devices capable of photography, geolocation, and global connectivity, adversaries may affordably employ quite capable tracking, mapping, and command and control capabilities and use flash mob and crowdsourcing techniques to identify, locate, and swarm U.S. formations. Furthermore, the near-worldwide deployment of cell towers means that a single device carried and left can unmask U.S. forces.

Defending the Homeland and Providing Support to Civil Authorities. A nation's first priority is self-protection. The U.S. homeland will be an important part of the future operating environment as the joint force must be prepared to defend its sovereign territory, population, and interests at and within its own borders as well as conducting humanitarian assistance and disaster response at home and abroad. Oceanic distances and international borders do not insulate the homeland from the global trend of increasingly permeable trade, travel, and money movement—illicit or otherwise. Free and open access to the Internet means adversaries can communicate directly with agents and sympathizers within the United States. Legal frameworks differ inside and outside the Nation, and between citizens and noncitizens. This means the defense of the homeland is fraught with complex legal and ethical issues.

In the past, Americans have assumed that being great distances from world problems would protect them. They have assumed that deterrence associated with fear of the consequences of actions would protect them as well. Traditional retaliation-based deterrence, however, may have limited use against nonstate transnational networks and hybrid or irregular forces. As the proliferation of weapons persists and technology increases the mobility of such weapons, the homeland may be constantly strained to deter attacks by nuclear weapons or biological attacks.

The joint force, especially in the context of ongoing wars abroad, tends to spend most of its intellectual and physical energy thinking about and preparing for the "away game." What characterizes joint force engagement in homeland defense activities is the complexity of looking inward and navigating relationships, standing agreements, and connections among the many state, local, tribal, and Federal actors that will be key partners in response efforts. Narcocriminal organizations in the Western Hemisphere, for instance, are beginning to resemble an insurgency in its infancy, and the joint force's prolific experience in counterinsurgency may be called on to more fully respond to mounting threats. Instability wrought by years of battles between these narcocriminal organizations and governments—most demonstrably in Mexico—may alter the relationship between homeland security and homeland defense mission sets.

Although the risk of direct assault on the homeland by traditionally organized, equipped, and commanded military forces operating at the direction of central national political authorities is very low, it has not disappeared. As a wider array of states develop longer-range and more powerful ballistic missiles, unpiloted aircraft, and submarine and naval capabilities, the potential for raids by these systems on targets within the homeland remains a consideration. Furthermore, state adversaries may encourage transnational networks to facilitate the entrance of money, goods, and even weapons into the United States and may build networks of agents able to attack and disrupt key military, economic, and industrial nodes within the Nation itself in times of crisis or war.

Ensuring Access to and Protection of the Global Commons. The United States will be increasingly challenged over its free use of the commons. The ability to dominate the seas, air, and space is central to our ability to assure our allies around the world. Furthermore, the global commons allow us to connect our economy to the wider global network of trade and finance on which our prosperity depends. The joint force will find itself in increasingly sharp competition with other state actors as adversaries develop their own advanced naval capabilities, long-range and stealthy aircraft, antisatellite weapons, and electronic warfare techniques.

Loss of access to and security of these commons increases the likelihood that adversaries will be able to reach into the United States itself and to isolate it from friends and allies. The great theorist of seapower, Alfred Thayer Mahan, noted that seapower is "chief among the merely material elements in the power and prosperity of nations."[12] In the future, cyberspace and outer space will increasingly claim similar importance and status as central elements of U.S. national power, wealth, and security, requiring the joint force and the Nation to protect and assure access to them.

Nearly uncontested freedom to operate on the seas, in the air, in orbit, and in the emerging domain of cyberspace meant that the United States historically exercised a high level of strategic freedom of maneuver as it focused on the prosecution of land and air wars on other continents. U.S. access to and use of these commons for political, economic, and military purposes has been unchallenged until recently. Paraphrasing another great naval theorist, Julian Corbett, protection of and military access through the commons make the application of decisive power possible.

The large number of entry points, ability to hide and remain anonymous, and massive and decentralized nature of cyberspace mean that "code will always get through" today and for the foreseeable future.[13] Dependence on a broad and growing range of governments, commercial and military capabilities on the Internet, and vulnerability of these

systems to foreign exploitation mean that cyberspace may present a new "assailable flank" through which adversaries could attack the Nation.

Like *terra incognita*, nations are defining where the cyber commons end and sovereign cyber-territories begin. This portends conflict at the frontiers, with nation-states asserting greater control, and digital natives (such as denizens of social networks, or members of groups such as the loosely associated international network of activists and hacktivists known as Anonymous) being co-opted by states, corralled into reservations, disaggregated, disrupted, or destroyed altogether. Within this context of future conflict and war, the joint force must increasingly understand that this dominance of access and use of the commons by joint force commanders cannot be assumed and, indeed, will be challenged in a growing number of ways.

Protecting Forward Bases and Partners or Controling Key Terrain. Historic U.S. domination of land, sea, and air through use of military, economic, and political power has guaranteed access to key terrain close to strategic objectives around the globe. In recent conflicts in Iraq and Afghanistan, the enemy made few efforts to deny U.S. forces entry into the theater. Future opponents may not prove so accommodating. The Nation has maintained a robust military presence overseas at many major bases, but the future joint force will reside within the continental United States, with expensive forward infrastructure replaced by a global network of smaller forward bases in remote, dangerous corners of the world.

Adversaries could increasingly seek capabilities and associated strategies focused on disrupting the closure and effective aggregation of needed joint force capabilities within a given theater of operations. This context of future conflict is focused on denying the adversary the capacity to shrink or complicate the areas of the world in which the joint force can efficiently move—a capacity central for a geographically remote global power such as the United States.

Remaining footholds and access points for the force will be more lucrative targets for adversaries. Attacks, especially in an environment where the relative scarcity of capital U.S. warfighting assets has a quality all its own, would have a greater effect on operations and could make host nations even less apt to grant access, resulting in challenging military operations and making the protection of crucial terrain such as the Strait of Hormuz or bases in South Korea increasingly difficult.

As the availability of less expensive advanced weapons increases and improves adversary antiaccess capabilities, the United States may have more difficulty carrying out its expeditionary strategy of protecting key terrain. Finally, there are fewer and fewer sanctuaries from which the joint force can operate and that can be effectively shielded from attack or disruption by a determined adversary. For example, the future operating environment will feature adversaries working to conduct attacks within the United States, focusing on the disruption of strategic deployment assets and methods including military installations, lines of communication, and sea and aerial ports of embarkation.

Understanding the defense of foreign bases, key terrain, and partners abroad is not easy on its own, and it is complicated by the notion that terrain is increasingly inclusive of important "positions" and "locations" that would historically have defied such categorization. In spite of the death of distance, commonly understood as an implication of the information age, the Internet's infrastructure—its servers and fiber-optic cables and the people who generate online content—must be located somewhere. In cyberspace, the topology of the network and location of network resources can be important terrain features. Understanding the nature and location of "chokepoints" on this terrain and how they might be controlled or protected will be an important consideration for the future joint force. Strategic terrain for transnational terrorist organizations may be the ungoverned spaces they use as sanctuary as well as the consent or at least acquiescence of the population and society within which they operate.

Stabilizing or Isolating Failed and Failing States and Undergoverned Spaces. Demographic change, uneven economic development, and clashing ideological worldviews could challenge many states and perhaps render them increasingly unable to exercise legitimate governance and maintain a monopoly on the use of violence within their borders. Many states may be unable to keep up with legitimate governance, resulting in ungoverned havens for transnational criminals and violent groups. Although we often equate state failure with small and poor countries, the historical record provides many examples of large states and even great powers failing or retreating, often with disastrous implications for the wider international arena. In many cases, the actual failure of a state or the governance of a particular area is viewed in history as a catalyst for something much larger.

Hizballah provides a prototypical example of a hybrid adversary embedded (and perhaps even outgrowing) its host state. Combining state-like warfighting capabilities with a "substate" political and social structure, its ability to compete strategically with the formidable state of Israel could increasingly be emulated by other groups around the world. Urban environments are an important subset of this context as well. Major urban environments are central to the global network of industry, trade, travel, migration, communications, finance, and infrastructure that underpins the world order. Moreover, these environments are growing at an explosive pace, both geographically and in terms of the fraction of humanity that lives there. Powerful national and regional political institutions are based in cities, and densely linked tribal, ethnic, social, and cultural identities are often forged in and exported from major urban environments. As always, the locus of power for many nations resides in the capital city as well.

Perhaps the most dangerous and consequential issue facing the future joint force goes far beyond providing or supporting governance for places without it. Failing states and undergoverned spaces are not only difficult for people within their borders, but they also threaten to catalyze more dangerous disruptions regionally and globally. The Syrian crisis

is an example of a failing state with disastrous humanitarian consequences of the first order. More troubling, however, is its potential to draw each of its neighbors into the conflict to one degree or another, increasing the potential for conflict between and among them, and moving the Middle East into a difficult sectarian "Cold War" played out among states and proxies across the region. The future joint force will be tasked with mitigating, containing, or countering failed state challenges to discourage wider interstate war.

Dangerous international ripples that fan out across the state system from even a small failed state may cause significant longer-term consequences for U.S. security. For example, the ungoverned Somali coastland allowed an expansion in piracy that significantly disrupted trade passing through the area. The threat of denied access to part of the global commons was enough that China and other nations sought to secure this important trade route by improving and deploying their own naval capabilities. So while Somalia's role as a front in al Qaeda's operations against the United States is well established, what may be more enduring is Somalia's role as a catalyst for China's emergence as a global naval power for the first time since 1433. Thus, failing states and undergoverned spaces may not simply challenge our operations in counterterrorism, counterinsurgency, and other efforts—they may also challenge more fundamental concepts of the existing world order America supports.

Conclusion

For the joint force, connected challenges within these contexts of future conflict and war mean we must develop a broader systemic view of global conditions. They mean we must be mindful of the need to balance competing interests and maintain stability of the system as a whole or, alternatively, to be ready to adapt. Rapidly changing international conditions coupled with the successful and visible presence of the joint force around the world has punished adversary failure harshly. Together, these selective competitive pressures have encouraged adversaries and potential adversaries to evolve.

Contexts of future conflict and war can help us make sound decisions about the future force. The five specific contexts presented here are a starting point, and others may be added or subtracted as the strategic environment changes or new trend combinations emerge. However, these contexts may assist us in conducting a more fundamental discussion of future missions and the resulting capability sets the environment will require of the joint force.

The Chairman of the Joint Chiefs of Staff noted that forces must be versatile, responsive, and decisive while remaining affordable to the Nation.[14] Contexts of future conflict and war help bring together disparate trends, clarify likely emerging military challenges, and encourage new combinations of capabilities that our current trends-based approaches and mindsets may overlook or discount. The essence of our innovative combinations of capabilities should serve to hold adversary sources of power and/or what they most deeply value at risk.

Our efforts to develop the future joint force must be based on a keen understanding of the character of conflict under changing international conditions and articulate how the exercise of military power relates to national security goals within fiscal and budgetary realities. The joint force will change one way or another. Using an approach based on contexts of future conflict and war, we can ensure that change is founded, guided, and executed by conscious design and by a keen appreciation for the military challenges we will likely face rather than by way of happenstance, the brute force of bureaucratic inertia, or wholesale reaction to outside events—or worse, more visionary adversary plans. **JFQ**

Notes

[1] Colin Gray, *Another Bloody Century: Future War* (New Haven, CT: Phoenix Press, 2005), 55.

[2] See Williamson Murray and Allan R. Millet, eds., *Military Innovation in the Interwar Period* (Cambridge: Cambridge University Press, 1996); and Stephen Peter Rosen, *Winning the Next War: Innovation and the Modern Military* (Ithaca, NY: Cornell University Press, 1994). These authors correctly warn about the dangers of overreliance on theory to drive military innovation. They also correctly point to the fact that, as Murray and Millet write, innovation can "represent fundamental, basic changes in the *context* within which war takes place" (2).

[3] *The Joint Operating Environment 2010* (Norfolk, VA: U.S. Joint Forces Command, February 2010), foreword.

[4] Martin E. Dempsey, *Chairman's Strategic Direction to the Joint Force* (Washington, DC: The Joint Staff, February 6, 2012), 7; Martin E. Dempsey, "Leadership in Historic Times," *Joint Force Quarterly* 71 (4th Quarter 2013), 2–3; Martin E. Dempsey, remarks at the 2012 Joint Warfighting Conference and Exposition, Virginia Beach, VA, May 16, 2012.

[5] Dempsey, *Chairman's Strategic Direction to the Joint Force*, 7.

[6] Nathan Freier et al., *Beyond the Last War: Balancing Ground Forces and Future Challenges Risk in USCENTCOM and USPACOM* (Washington, DC: Center for Strategic and International Studies, April 2013), 11–12.

[7] See, for example, the excellent trends-focused work developed by the National Intelligence Council (NIC), *Global Trends 2030: Alternative Worlds* (Washington, DC: NIC, December 2012); Atlantic Council, *Envisioning 2030: U.S. Strategy for a Post-Western World* (Washington, DC: Atlantic Council, 2012).

[8] Edward Cornish, *Futuring: The Exploration of the Future* (Bethesda, MD: World Future Society, 2005), 78.

[9] *Joint Operating Environment 2010*, 72.

[10] Joint Publication 1, *Doctrine for the Armed Forces of the United States* (Washington, DC: The Joint Staff, March 25, 2013), VI-9.

[11] See Jeffery Becker, "Strategic Trends and Drivers," in *Securing Freedom in the Global Commons*, ed. Scott Jasper, 19 (Stanford, CA: Stanford University Press, 2010).

[12] Cited in William E. Livezey, *Mahan on Sea Power* (Norman: University of Oklahoma Press, 1981), 281–282.

[13] A paraphrase of British Prime Minister Stanley Baldwin's famous phrase in his 1932 speech "A Fear for the Future" that the strategic "bomber will always get through."

[14] Dempsey, *Chairman's Strategic Direction to the Joint Force*, 7.

Two Royal Australian Air Force F/A-18 Hornets in preparation to conduct in-flight refueling while participating in Cope North 13 near Anderson Air Force Base, Guam (U.S. Air Force/Matthew Bruch)

Tailored Deterrence

Strategic Context to Guide Joint Force 2020

By Michael Johnson and Terrence K. Kelly

Some Quadrennial Defense Reviews (QDRs) are "sustainers" in which the Department of Defense (DOD) refines a well-established strategy against known threats. The recent QDR had to contend with significant changes in the security environment and defense resources. The first such change is the return of China as a great power, which presents a complex blend of cooperation, competition, and concerns. What defense strategy and deterrence policy should guide the pivot to the Pacific and investments in Air-Sea Battle? The second change is the increasing convergence of rogue states, nuclear proliferation, cyber warfare, regional instability, and transnational terrorism in places such as North Korea, Iran, and Syria. Instead of preventive war, how should DOD deter and respond to an expanded range of hostile acts by rogue states and nonstate actors? The third change is the reduction in defense spending, which leads policymakers to reassess defense strategy and call for difficult choices about joint force structure, modernization, and readiness. What is the right balance of capabilities in Joint Force 2020?

Michael Johnson is a Senior Defense Research Analyst at the RAND Corporation. Dr. Terrence K. Kelly is Director of the Strategy, Doctrine, and Resources Program at the RAND Arroyo Center.

To address these challenges, the *National Security Strategy* recognizes the need to "underwrite defense commitments with tailored approaches to deterrence."[1] Yet the Defense Strategic Guidance (DSG) sets a more general goal: "The Joint Force will be prepared to confront and defeat aggression anywhere in the world."[2] The DSG describes the mission to deter and defeat aggression as a doctrinal template to deny objectives and impose costs, but it does not detail whom and what to deter, or how. The DSG implicitly assumes that resources are sufficient to deter and defeat aggression everywhere, but defense cuts call this assumption into question by imposing reductions well beyond the programmed force on which the DSG is based.

To guide strategic choices driven by reduced resources, the United States should develop a defense strategy based on tailored approaches to deter the principal threats to national security while preserving flexibility to account for their uncertain trajectories and potential shocks. This hybrid approach would provide a strategic framework to ensure that defense planning scenarios are realistic and necessary, indicate the missions and forces required to execute clear policy, and guide defense spending to provide the greatest return on investment. A defense strategy based in part on tailored deterrence would thus discipline any "irrational exuberance" for operational concepts and capabilities intended to solve military-technical problems by ensuring that they remain consistent with rational foreign and defense policies.

To support the development of such a defense strategy, this article considers broadly what it means to "deter and defeat aggression" in specific cases and outlines the supporting missions and forces. As a framework, it provides direction for the development of deterrence policies and empirical analysis of supporting military plans by analyzing how deterrence is being operationalized within the force-sizing scenarios and suggesting alternative approaches. It concludes that DOD is *overinvesting* in offensive Air-Sea Battle capabilities beyond what is necessary and prudent to deter China from attacking U.S. allies, but *underinvesting* in the balanced joint force necessary to deter rogue states from conducting an expanded range of hostile acts and to secure weapons of mass destruction (WMD) in failing states.

Deterrence in the DSG

A deterrence strategy seeks to prevent or discourage a specific hostile actor from performing specific undesirable acts by introducing doubt in its ability to succeed or fear of retaliation. As the DSG states, "Credible deterrence results from both the capabilities to deny an aggressor the prospect of achieving his objectives and from the complementary capability to impose unacceptable costs on the aggressor."[3] Linking deterrence with capability, the DSG describes a decisive joint campaign to defeat aggression that includes the ability to "secure territory and populations and facilitate a transition to stable governance."[4] The DSG implies some measure of continuity with the two-war construct by stating, "our forces must be capable of deterring and defeating aggression by an opportunistic adversary in one region even when our forces are committed to a large-scale operation elsewhere."[5] While consistent with deterrence theory and joint doctrine, the DSG does not take the next steps to specify whom and what to deter, or how, which is necessary to guide development of Joint Force 2020 given declining defense resources.

As a result, there is disagreement among defense leaders about the types of forces required to deny objectives and impose costs when it comes to force-sizing. For example, to deter a wide range of threats, Chairman of the Joint Chiefs of Staff General Martin Dempsey considers that the essential task of a flexible joint force is to prevail in simultaneous contingencies wherever and whenever they occur:

Now, there's been much made . . . about whether this strategy moves away from a force structure explicitly designed to fight and win two wars simultaneously. Fundamentally, our strategy has always been about our ability to respond to contingencies wherever and whenever they occur. This won't change. . . . We can and will always be able to do more than one thing at a time. More importantly, wherever we are confronted, and in whatever sequence, we will win.[6]

Yet others contend that the DSG represents a significant change that would use air and naval forces in lieu of ground forces to deter and defeat aggression. For example, retired Chief of Naval Operations Admiral Gary Roughead suggests that fighting "two land wars simultaneously is not the Obama strategy."[7] His interpretation of a significantly different force-planning construct would use air and naval power to deny objectives or impose costs in emergent challenges:

The defense strategy set forth by Defense Secretary Panetta in January 2012—a significant departure from prior Defense Secretary Robert Gates' focus on winning our current land wars—seeks to rebalance our force toward facing emergent challenges, which will be predominantly air and maritime in nature. . . . The structure of a force to meet these needs would maintain the Navy and Air Force at current objectives. . . . The active duty Army would be reduced by [an additional] *200,000 soldiers from the 490,000 planned in the FY 2013 budget.*[8]

Military leaders have different views about the requirements to deter and defeat aggression because the DSG never moves beyond the doctrinal template for deterrence to provide specific strategic guidance. It does not define the adversary and hostile acts the United States seeks to deter or the military missions and forces to deny the (unknown) objective or impose the (unspecified) cost. *Deny* and *defeat* are ambiguous terms that vary with the strategic objective in different cases. For example, the joint force could be required to:

- Deny the aggressor's ability to attain the objective (that is, successful defense). Examples include preventing Iraq from seizing oilfields in

Saudi Arabia and preventing North Korea from striking the United States with a ballistic missile.
- Deny the aggressor's ability to retain the objective (that is, successful offensive to restore the status quo ante bellum). Examples include restoring the 38th parallel in Korea in 1950 and reversing Iraqi aggression by liberating Kuwait in 1991. This would also include a limited offensive to deny North Korea's ability to strike Seoul with long-range artillery.
- Defeat the aggressor to prevent future attacks (that is, a successful offensive to defeat military forces and remove the regime as punishment for crimes against humanity). Examples include defeating Germany and Japan in World War II and the Taliban in 2001.
- Threaten to punish the aggressor with nuclear weapons (that is, in extreme cases, threaten to retaliate in kind or overcome a conventional imbalance). During the Cold War, the strategy of flexible response incorporated direct defense by conventional forces to resist an attack and gain time for a diplomatic resolution. If defense became untenable, deliberate escalation included the limited use of nuclear weapons to blunt an attack and signal the will to proceed to the next stage—a general nuclear response against the enemy's homeland.

These examples reveal that the missions and forces required to deter and defeat aggression are highly dependent on the circumstances in specific cases. Rather than assuming that air and naval power are sufficient to deny objectives in all second contingencies, DOD should develop tailored approaches to deter the principal future challenges to U.S. national security interests as the basis for deriving realistic force-planning scenarios, military missions, and joint forces.

Deter Aggression by China

There is inherent tension within the U.S. strategy to engage China while simultaneously deterring aggression and assuring allies. The *National Security Strategy* states that the United States is "working to build deeper and more effective partnerships" with countries, including China, "on the basis of mutual interests and mutual respect."[9] However, the underlying defense strategy since 1991 has been to sustain U.S. military dominance to prevent the rise of a peer-competitor.[10] This desire to sustain American primacy in Asia is accelerating the security dilemma by increasing fear of containment in China.[11] Furthermore, the high financial cost and risk of escalation associated with defeating China's antiaccess/area-denial (A2/AD) capabilities suggest that policymakers should weigh this approach against a defensive form of flexible response that would provide more time to reach a political resolution in future crises.[12]

The current approach is apparently to deter China with the Air-Sea Battle concept—at least that is how Beijing sees it.[13] China's land-based missiles, which can strike aircraft carriers and air bases at extended range, create a military-technical problem. The fear is that if the U.S. Navy and Air Force could be denied access to the East and South China seas, then China could dominate Asia because the United States would be unable to deter its aggression. The proposed military-technical solution is to develop the offensive strike and cyber capabilities to destroy China's sensor, command, and missile systems to "break the kill chain" by striking hundreds of targets on the mainland.[14]

The advantage of sustaining military dominance (if possible) is the ability to preserve freedom of navigation by protecting aircraft carriers and tactical aircraft operating close to China. The capability to project power despite A2/AD is necessary to defeat a rogue state such as Iran and North Korea, but attacking a great power with nuclear weapons and the second largest economy is another matter. Yet the lack of clearly articulated defense policy to deter China is resulting in a force planning process that presumes that breaking the kill chain in China is militarily necessary and politically realistic despite obvious questions and considerations.[15]

The political and strategic disadvantages of offensive Air-Sea Battle become clear when policymakers consider likely Chinese reactions to destroying hundreds of targets on the mainland they deem essential for self-defense. *China is no more likely to accept the loss of its A2/AD system than the United States would be willing to accept the loss of its Pacific fleet without escalating and making nuclear threats.* An offensive doctrine to destroy China's A2/AD system is destabilizing because each side would have a military incentive to strike first based on a use-it-or-lose-it calculus. This incurs high risk of immediate vertical escalation, leaving policymakers with little or no room for developing political solutions to defuse a crisis.

In other words, recommending the use of Air-Sea Battle to break the kill chain in China would offer the President an escalatory option in the same vein that Helmuth von Moltke the Younger offered Kaiser Wilhelm II in 1914 (execute the Schlieffen Plan), Douglas MacArthur offered Harry Truman in 1951 (bomb mainland China), and Curtis LeMay offered John F. Kennedy in 1962 (bomb Cuban missile sites). American policymakers today should realize that their predecessors rejected similar options because there is no credible theory to "defeat" a great power with nuclear weapons at acceptable risk, especially when the Chinese threaten "unrestricted warfare" to defend their core interests. Policymakers should therefore drive the creation of more acceptable military options to defend U.S. interests while minimizing the incentives to strike first and escalate attacks.

An alternative approach would start by recognizing that A2/AD works in both directions. The United States could leverage the inherent cost and technical advantages of A2/AD to deter China by providing defensive options to protect U.S. allies (that is, Australia, Japan, South Korea, the Philippines, and Thailand). The United States *and its partners* should invest in A2/AD to interdict Chinese ships, aircraft, and missiles that could be used in an amphibious assault or punitive

Amphibious transport dock ship USS *Cleveland* leads multinational partners during 5-month humanitarian assistance initiative that visits Tonga, Vanuatu, Papua New Guinea, Timor Leste, and Federated States of Micronesia (U.S. Navy/Michael Russell)

strikes.[16] In effect, the "near seas" would become contested commons in which both sides could deny access, but neither side need strike first to protect their forces. Submarines, bombers with long-range missiles, and land-based antiship missiles could defeat the Chinese navy at less cost and risk; thus, it is not necessary to use aircraft carriers and tactical aircraft to achieve this objective.[17]

To provide survivable and reinforcing joint fires, the Army could develop land-based antiship missiles for its existing rocket artillery systems, consider investing in antiship cruise and ballistic missiles, and increase the number of Patriot batteries in a new theater A2/AD brigade. It could then train with partners to develop A2/AD capabilities and tie them into U.S. systems if mutually beneficial. Partners would become more capable of deterring China while the close relationship would demonstrate U.S. commitment to extended deterrence. Even if China invests billions to project power despite our A2/AD defenses, the risk of escalation, including the use of nuclear weapons, would be sufficient to deter aggression.[18]

This part of a deterrence strategy in Asia based on flexible response is similar to the defensive posture that deterred the Soviet Union from attacking the North Atlantic Treaty Organization.[19] U.S. conventional forces were never built to attack and defeat the Soviets in a decisive joint campaign; on the contrary, the United States recognized its ground forces in Europe were vulnerable to attack. Their strategic purpose was to prevent a rapid fait accompli and trigger the uncertain process of escalation at a local conventional level. Thomas Schelling explains why the "manipulation of risk" succeeded in deterring the Soviets from attacking the isolated garrison in Berlin, which was surrounded by overwhelming force in multiple crises:

> *It has often been said, and correctly, that a general nuclear war would not liberate Berlin. . . . But that is not all there is to say. What local military forces can do, even against very superior forces, is to initiate the uncertain process of escalation. One does not have to be able to win a local military engagement to make the threat of it effective. Being able to lose a local war in a dangerous and provocative manner may make the risk . . . outweigh the apparent gains.*[20]

Having enjoyed freedom of navigation in the Pacific since 1944, the Navy and Air Force are concerned about their growing vulnerability as a result of China's A2/AD capability in the near seas. Allies may also be concerned about America's ability to project power to reinforce their defense. Yet because China is a rational actor with high-value targets that can be held at risk, it is not necessary to eliminate this vulnerability

Japanese and American officers study map of coastal region of Japan that USS *Ronald Reagan* strike group provided humanitarian assistance and relief efforts to in support of Operation *Tomodachi* (U.S. Navy/Dylan McCord)

to deter aggression. Washington only needs to nurture its alliances with forward presence as a sign of commitment to extended deterrence, help partners develop defensive measures capable of limiting Chinese power projection, and sustain a credible nuclear arsenal. Instead of praising Air-Sea Battle and unrestricted warfare, policymakers on both sides have a more immediate need to develop the diplomatic and military protocols to manage crises and minimize the risk of miscalculation and escalation.[21]

Policymakers should recognize that the goal of sustaining U.S. military dominance over China is an expensive illusion. *Both countries are already mutually vulnerable, militarily and economically, in a manner that would constrain rational actors.* This leads not to Chinese domination of Asia, but to good prospects for a stable relationship based on mutual deterrence, which presents clear advantages. A defensive approach nests better with U.S. foreign policy to engage China. It supports allied desires to trade with China and avoid a cold war, but still hedge with the United States to maintain their political independence. It provides allies with an acceptable operational concept as a foundation to build military partnerships. It mitigates the security dilemma and possibly avoids an arms race by not threatening to disarm China's ability to defend itself. Instead, it enhances stability by developing capabilities that do not threaten China per se, but rather its ability to attack U.S. allies, thus decreasing the benefits from first-strike options to defang Air-Sea Battle before it could be used.[22] Because it leverages the technical and fiscal asymmetries that favor A2/AD defense over offensive power projection, it is cheaper to sustain and technologically more likely to succeed than breaking the kill chain. Adopting an A2/AD defense of allies, partners, and the commons would thus force China onto the wrong side of the capability and cost curve if it wants to pursue a foreign policy based on military aggression. Finally, this approach provides resources for a balanced joint force to counter more likely threats.

Deter Regional Aggression and Counter WMD Proliferation

The more likely challenge to U.S. vital national interests is what Admiral James Stavridis describes as the "convergence" of rogue states, WMD proliferation, regional instability, cyber warfare, terrorists, and criminal networks.[23] The *National Security Strategy* and DSG

state, "there is no greater threat to the American people than weapons of mass destruction, particularly the danger posed by the pursuit of nuclear weapons by violent extremists and their proliferation to additional states."[24] While deterring terrorist organizations is difficult if not impossible, these converging challenges are expanding requirements to deter hostile acts. They include deterring:

- conventional, irregular, and potential nuclear attacks by rogue states such as North Korea against the United States, its allies, and its partners
- rogue states from supporting a terrorist attack on the United States homeland by providing safe havens and financial and material assistance
- rogue states from transferring WMD to terrorist organizations such as al Qaeda
- cyber attacks by rogue states against critical infrastructure in the United States and its allies
- states such as Syria and Libya from inflicting mass civilian casualties.[25]

Some caveats are important. Deterring these complex challenges requires a coordinated effort by joint, interagency, and multinational partners. A strategy of selective engagement should aim to deter conflict in critical regions including Asia, the Middle East, and Europe, but avoid large-scale, long-duration interventions in preventive wars of choice such as Iraq. The object is not to view every geopolitical problem as one that requires a solution based on regime change. Instead, the question is whether the credible capacity to defeat two regional powers is still necessary to preserve peace and security through deterrence.

The DOD force-sizing scenarios have shifted emphasis away from decisive joint campaigns to deter and defeat aggression. Currently, DOD planners are sizing the force to conduct two air-naval conflicts, but only one combined arms campaign in which a partner supplies the majority of ground forces and there is no significant prolonged requirement for U.S. forces to conduct stability operations. There is no second contingency that requires significant ground forces. There is no force-sizing scenario to secure WMD in a failing state. Despite assigned missions and active threats to vital interests, there is no ground force-sizing scenario in the Middle East or Europe. This is consistent with recommendations to shift the burden of major combat operations to air and naval forces in a second contingency, even though their effectiveness in complex conflicts such as Syria and Ukraine is debatable.[26] On this basis, Admiral Roughead and some defense analysts in the Office of the Secretary of Defense contend there is excess capacity in ground forces.

While the DSG is generally sound, the current approach to implement the guidance by sizing the force to deter and defeat aggression is based on a number of assumptions that are exceedingly optimistic but necessary to justify reducing the Active-duty Army significantly below 490,000 Soldiers. In particular, Admiral Roughead's assertion that air and naval technology can counter emergent challenges without the need for significant ground forces warrants more analysis.

There is little historical evidence that air and naval power alone is sufficient, but much to suggest that a unified joint force can deter and defeat aggression quite effectively. Since Giulio Douhet first theorized that airpower could win wars by itself by terrorizing a population and causing a government to capitulate (that is, "shock and awe"), these theories have repeatedly failed, been updated, and again proved wanting. Strategic bombing failed to defeat aggression by Germany and Japan, but air superiority enabled decisive joint offensives to defeat their military forces. While Operation *Linebacker* had greater coercive effect than *Rolling Thunder*, the Vietnam War would not have ended without integrated air-land operations that defeated the 1972 North Vietnamese offensive on the ground. In *Desert Storm*, air operations failed to force Iraq to withdraw from Kuwait, but degraded the enemy and helped ground forces achieve campaign objectives in 100 hours with 148 U.S. battle deaths. In Kosovo, airstrikes were a critical component of a successful coercion campaign, but they were insufficient to compel Slobodan Milošević to halt ethnic cleansing or agree to terms without the credible threat of ground operations.[27] In Afghanistan, strategic air attacks failed to defeat the Taliban, but precision close air support enabled Afghan allies with U.S. special operations forces to seize Mazar-e-Sharif and Kabul. In Iraq, airstrikes failed to "shock and awe" Saddam Hussein and his security forces into surrender, but they enabled and protected dispersed small units operating over wide areas.

Thus the leaders of North Korea, Iran, and Syria may well conclude that sanctions and airstrikes alone are not sufficient to deter them from attacking neighbors, killing civilians, launching catastrophic cyber attacks, or supporting terrorist attacks against the homeland. If adversaries believe they can achieve their objectives by exploiting irregular tactics or complex terrain, then the threat of airstrikes may not "deter by denial." If adversaries believe the cost of agreeing to U.S. terms is unacceptable and remain willing to endure hardships, then the threat of airstrikes may not "deter by punishment" or compel them to concede. The United States typically demands a significant sacrifice from an adversary without considering his reaction—for example, a dictator must abdicate (for example, Libya and Syria) or relinquish an important territory (Kuwait and Kosovo). In cases in which a leader's survival depends on his or her demonstrated power to rule, resistance may well be preferable to surrender.

If the optimistic force-sizing assumptions about the efficacy of smart power prove invalid in future contingencies, *there would be significant military risk to defeat aggression and respond to another contingency*, and higher risk if continued budget cuts reduce Active-duty end-strength well below currently programmed levels or compromise readiness. This means that combatant commanders would lack the forces required to achieve strategic objectives, or Reserve forces would be deployed in combat before they are fully trained, or land forces would remain in direct combat much longer than

Table. Proposed Force-Sizing Scenarios

Joint Scenario Set A (Ground Stress Test)	Joint Scenario Set B (Air/Naval Stress Test)
Conduct decisive joint campaign to defeat regional power, secure weapons of mass destruction (WMD), conduct stability operations and wide-area security, and support political transition (for example, North Korea)	Use antiaccess/area-denial to deny power projection capability of great power to attack U.S. allies in the Pacific within a larger strategy of flexible response (for example, China)
Conduct stability operations to protect civilians and secure WMD in a failing state (for example, Syria)	Deny the ability of a regional power to interdict shipping in maritime chokepoints with mines, airstrikes, and surface-to-ship missiles (for example, Iran)
Support civil authorities (disaster relief)	Support civil authorities (consequence management)
Special Operations Forces Counterterrorism (direct action) and Irregular Warfare (unconventional warfare, foreign internal defense)	
Global Response Force, Theater Security Cooperation, Security Force Assistance, and Building Partner Capacity	

evidence suggests could be reasonably endured by volunteer citizens without compromising the quality of the force.[28]

The alternative approach to deterring and defeating regional aggression would restore emphasis on decisive joint campaigns within the force-planning construct while still including other missions such as irregular warfare, counterterrorism, peacekeeping, and homeland defense. Specifically, Joint Force 2020 would be sized to conduct operations as joint campaigns that stress all Services in terms of critical capabilities (see table).

The force-planning construct shown in the table offers advantages that enhance regional deterrence. In cases of conflict with North Korea and Syria, ground forces enable the joint force to:

- protect people, defend territory, and secure resources
- defeat threats in complex terrain
- achieve a favorable and longer lasting outcome
- demonstrate U.S. resolve to allies and adversaries.

These advantages are relevant in deterring the emergent challenges defined above. For example, to deter nuclear transfer and terrorism,

target states should announce they reserve the right to take large-scale military action, to include invasion and occupation, against territories of central importance to any non-state actor that attacks them with nuclear weapons, and any entity that provides the attackers with substantial material or financial support.[29]

This decisive joint capability would introduce uncertainty into adversary calculations, as well as the calculations of their hosts and supporters should they be nonstate actors and cause them to consider the consequences of their actions beyond enduring airstrikes.

The result of this alternative approach is a balanced joint force with the credible capability to deter and defeat aggression by rogue states, secure WMD in failing states, and still deter China from attacking U.S. allies. It provides the President with more flexible options to respond to unforeseen events. The disadvantage for some defense planners is that disproportionate cuts to ground forces were intended to pay for offensive Air-Sea Battle capabilities to defeat China in a war for which there is no credible theory for victory, and given the risk of mutual economic or nuclear destruction, one that no President or Secretary of Defense would willingly enter.

Conclusion

U.S. national security and defense strategies rely on deterrence, yet the DOD force planning process is not based on a tailored approach to deter threats in realistic strategic context. The Department of Defense defines neither the aggressors and hostile acts the Nation seeks to deter nor the objectives to be denied and the costs to be imposed to achieve this effect. As a result, the force-sizing scenarios reflect implicit assumptions, operational concepts, and programmatic priorities more than clear defense policies based on the actual threats to the United States. This force-sizing construct has questionable utility. In particular, this overarching analysis of how the Nation should deter the principal threats to its national security suggests DOD is currently:

- overinvesting in offensive capabilities to defeat China in Air-Sea Battle when a defensive posture to strengthen partnerships and use A2/AD capabilities to deny Chinese power projection, combined with the risk of conventional and nuclear escalation, would be more stable, less expensive, and sufficient to deter aggression against U.S. allies
- underinvesting in combined arms capabilities to defeat regional powers such as North Korea and secure WMD in a failing state such as North Korea or Syria; in these cases a balanced joint force with the ground capacity to hold states accountable offers more credible deterrence than sanctions or airstrikes alone, which would not deny objectives or impose unacceptable costs in the most dangerous cases.

To prioritize limited resources in accordance with actual defense policies and threats, DOD should develop the tailored approaches to deter specific threats to U.S. national security interests. Rigorous analysis should determine the sufficient and credible forces required to deter these threats, and defeat them if deterrence fails. Supporting military plans should consider the major operations and tactics required to execute key tasks. Defense leaders would then have confidence that the future joint force can execute specific missions at acceptable risk. **JFQ**

Notes

[1] *National Security Strategy* (Washington, DC: The White House, May 2010).

[2] *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense* (Washington, DC: Department of Defense, January 2012).

[3] Ibid., 4. Emphasis in original.

[4] Ibid. Emphasis in original.

[5] Ibid.

[6] Defense Strategic Guidance Briefing from the Pentagon, Washington, DC, January 5, 2012, available at <www.defense.gov/transcripts/transcript.aspx?transcriptid=4953>.

[7] Walter Pincus, "Budget Advice for Hagel," *The Washington Post*, February 26, 2013, 13.

[8] Gary Roughead, *National Defense in a Time of Change* (Washington, DC: Brookings Institution Press, February 2013), 13.

[9] *National Security Strategy.*

[10] The 1994 Defense Planning Guidance announced that the United States would "deter potential competitors from aspiring to a global role." The 1997 Quadrennial Defense Review (QDR) stated that the United States would "maintain military superiority in the face of evolving threats." The 2001 QDR stated that the United States would "maintain favorable power balances" and "dissuade security competition."

[11] Aaron Friedberg, *A Contest for Supremacy* (New York: Norton, 2001), 36.

[12] Thomas Schelling, *Arms and Influence* (New Haven: Yale University Press, 1966), chapter 3.

[13] See, for example, Zhao Jinjun, "Objectively Viewing 'Air-Sea Battle,'" *Beijing Zhanyou Bao*, June 30, 2012, 3.

[14] "Air-Sea Battle defeats threats to access by, first, disrupting an adversary's command, control, communications, computers, intelligence, surveillance, and reconnaissance systems; second, destroying adversary weapons launchers (including aircraft, ships, and missile sites); and finally, defeating the weapons an adversary launches." See Jonathan Greenert and Mark Welsh, "Breaking The Kill Chain: How to Keep America in the Game When Our Enemies Are Trying to Shut Us Out," *Foreign Policy*, May 16, 2013.

[15] David C. Gompert and Terrence Kelly, "Escalation Cause: How the Pentagon's New Strategy Could Trigger War with China," *Foreign Policy*, August 2, 2013, available at <www.foreignpolicy.com/articles/2013/08/02/escalation_cause_air_sea_battle_china>.

[16] Terrence Kelly et al., *The U.S. Army in Asia: 2030–2040* (Santa Monica, CA: RAND, forthcoming).

[17] Terrence Kelly et al., *Employing Land-Based Anti-Ship Missiles in the Western Pacific*, TR-1321-A (Santa Monica, CA: RAND, 2013).

[18] Bernard Brodie, *Strategy in the Missile Age* (Princeton: Princeton University Press, 1959); and Robert Jervis, *The Meaning of the Nuclear Revolution* (Ithaca: Cornell University Press, 1989).

[19] While competition with the Chinese bears little resemblance to the decades-long confrontation with the Soviets, the challenges of strategy, when faced with an extremely capable, continental-sized competitor, are similar.

[20] Schelling, 104.

[21] For analysis and recommendations, see Avery Goldstein, "First Things First: The Pressing Danger of Crisis Instability in U.S.-China Relations," *International Security* 37, no. 4 (Spring 2013), 49–89.

[22] Gompert and Kelly.

[23] James G. Stavridis, "The Dark Side of Globalization," *The Washington Post*, May 31, 2013.

[24] *Sustaining U.S. Global Leadership.*

[25] Paul K. Davis and Brian Michael Jenkins, *Deterrence & Influence in Counterterrorism: A Component in the War on al Qaeda*, MR-1619-DARPA (Santa Monica, CA: RAND, 2002), xi.

[26] Andrew Hoehn et al., *A New Division of Labor: Meeting America's Security Challenges Beyond Iraq*, MG-499-AF (Santa Monica, CA: RAND, 2007).

[27] "The air campaign began with enough forces to punish the Serbs, but it lacked the mass and capabilities to halt the ethnic cleansing." See Wesley Clark, *Waging Modern War* (New York: PublicAffairs, 2001), 424. On June 2, "Sandy Berger told us, '[the President] had made a decision that he was not going to lose and that he was prepared to go for a ground invasion." See Ivo Daalder and Michael E. O'Hanlon, *Winning Ugly* (Washington, DC: Brookings Institution Press, 2000), 160. After Russian envoy Viktor Chernomyrdin informed Slobodan Milošević of the North Atlantic Treaty Organization's intentions to conduct ground operations, which Russia would not prevent, Milošević agreed to terms the next day on June 3.

[28] The classified 2007–2012 Chairman's Risk Assessments described the stress on the force and its effects.

[29] S. Paul Kapur, "Deterring Nuclear Terrorists," in *Complex Deterrence: Strategy in the Global Age*, ed. T.V. Paul, Patrick Morgan, and James Wirtz, 123 (Chicago: University of Chicago Press, 2009).

Soldiers dismount from Stryker vehicle during Foal Eagle 2012 as part of Combined Arms Live Fire Exercise at Rodriguez Range Complex, South Korea (U.S. Army)

The Role of U.S. Land Forces in the Asia-Pacific

By Kimberly Field and Stephan Pikner

Even as turmoil continues to mark the Middle East, the long-term trends in global security matters are increasingly focused on the Asia-Pacific and China. Indeed, for the structural realists who believe the distribution of power between states is the root of why states do what they do and the primary driver for conditions of peace and war, the rise of China is principal on the security landscape. In contrast, the efforts of the past decade have reduced terrorism to the status of a gnat that the United States will keep chasing around the globe.

While China will not soon surpass the United States as the global diplomatic, military, economic, and soft power leader, its rise is undeniable. In contrast to the stark U.S.–Soviet Union dichotomy, the relationship between America and China has remained more interwoven, complex, and fluid. While the ideological differences between the United States

Brigadier General Kimberly Field, USA, is Deputy Director of Army Strategic Plans and Policy. Major Stephan Pikner, USA, is a Strategist on the Army Staff.

and Soviet Union manifested themselves in the economic, military, and cultural domains, the U.S.-China relationship is a mix of cooperation and competition that requires balance and integration of efforts across all dimensions of national power. Executed poorly, missteps in one area could significantly damage American interests elsewhere; executed well, the relationship could grow into a mutually beneficial one in which "a rising tide lifts all boats."[1]

China's decades of rapid economic growth have underwritten a surge in military modernization, regional assertiveness, and global activity. The People's Liberation Army (PLA) has taken lessons from the U.S. military's logistical, tactical, and operational dominance displayed during Operation *Desert Storm* in 1991, the shock of being unable to deal with the deployment of U.S. Navy aircraft carriers into the Taiwan Straits in 1996, and the performance of Western coalition airpower against Serbian air defenses in Kosovo in 1999.[2] These lessons have spurred modernization focused on countering American power projection platforms and their associated communications and surveillance infrastructure. Highly advanced antiship ballistic missiles (ASBMs), coupled with antisatellite weapons and cyberwarfare capabilities, present a serious threat to the U.S. military's ability to defend its allies and interests. In addition to this military buildup, the reduced American military presence in the Pacific due to wars in Iraq and Afghanistan has coincided with the escalation of longstanding disputes between China and its neighbors regarding the sovereignty of various islands (and their associated maritime exclusive economic zones). These actions have taken China's neighbors, many of them U.S. allies, aback.

China's global activity is less overtly aggressive but is increasingly felt. Its veto power on the United Nations (UN) Security Council has limited collective security action against autocratic regimes in Sudan, Syria, and Iran. The growing economy's insatiable appetite for raw materials and energy has pushed Chinese corporations far afield in search of resources. Africa, in particular, but also South America, the Arctic, and Central Asia, have been popular destinations for investment in research and resource extraction. Chinese-funded improvements in foreign ports (the "string of pearls") have increased, and these ports can have naval significance.[3]

It is in the three interrelated arenas of military, regional, and global activity that the China-U.S. relationship will be tested. Some escalation of the security competition between Beijing and Washington is inevitable as military capabilities developed by one side will be seen as provocative by the other, creating a drive to build countercapabilities. Power transitions, when a rising power approaches parity with the incumbent, are often the period where the danger of miscalculation and war is greatest.[4] While neither the United States nor China will lose their urges for political advantage simply because of interdependence (and certainly activities in cyberspace are intensifying), the urge to use traditional military power will be restrained by that economic interdependence and by mutual nuclear deterrence.

To ensure long-term mutual growth and stability, these existing seeds of restraint should be nurtured. A relationship based on mutual restraint is critical to preventing the instability that power transition theory proposes. Mutual restraint expands on existing mutual deterrence. As stated by David Gompert and Phillip Sanders:

The distinction between mutual deterrence and mutual restraint is crucial. Although mutual restraint depends on mutual deterrence, it is less fragile and more likely to contribute to wider cooperation than fear-based deterrence alone. It implies that the parties are not fundamentally adversarial and that each seeks a relationship based on more than canceling out the other's strategic threat. While mutual restraint does not depend on faith in good intentions, it can ease fears of hostile intent, thus reducing the danger of miscalculation and the collapse of restraint during crises. It also invites—indeed, requires—earnest dialogue and understanding regarding the shared problem of strategic vulnerability, as well as concrete steps to reinforce restraint.[5]

Developing mutual restraint has two major implications for the future of American landpower. The first relates specifically to deterrence of aggression and reassurance of America's allies in the western Pacific. Mutual deterrence is a necessary condition for mutual restraint, and the inability to use force (due to lack of capacity, capability, or will) undermines the viability of mutual restraint. The second is broader in scope and considers the worldwide implications of the cooperate-compete nature of the U.S.-China relationship as it applies to developing regions, unstable states, and the global commons.

A New Flexible Response

The U.S. military has enjoyed unfettered air and naval access across the Pacific since World War II. Working with treaty allies in Australia, Japan, Republic of Korea, the Philippines, New Zealand, and Thailand, the United States has built a network of ports and bases that allows it to project and sustain military power. China's recent investment in its military capabilities, especially in intermediate-range missiles whose range and capabilities pose a risk to the U.S. Navy as well as forces stationed nearby, has the potential to disrupt the military balance in the western Pacific. As above, while China is not the threat the Soviet Union once was, it can now impose unacceptable costs on the American military, economy, and homeland in the event of a conflict. Managing this challenge to America's regional role in the western Pacific while keeping options for global U.S.-China cooperation open have led to dissonance among American policymakers.

America's 2010 *National Security Strategy* cites the need to "pursue a positive, constructive, and comprehensive relationship with China" while emphasizing that "disagreements should not prevent cooperation on issues of mutual interest, because a pragmatic and effective relationship between the

United States and China is essential to address the major challenges of the 21st century."[6] Building on this, the 2012 Defense Strategic Guidance cites the need to "build a cooperative bilateral relationship" while at the same time stating that "the United States will continue to make the necessary investments to ensure that we maintain regional access and the ability to operate freely in keeping with our treaty obligations."[7] The 2010 Quadrennial Defense Review, though, emphasizes the need to ensure military access in a contested environment through the development of an Air-Sea Battle concept and the expansion of future long-range strike capabilities.[8]

Air-Sea Battle is an operational concept developed jointly by the Navy and Air Force that seeks to overcome the challenges posed by China's military buildup. By integrating a variety of land-, sea-, air-, and space-based sensors and weapons, it seeks to neutralize an adversary's antiaccess weapons systems. While some of the steps that would be taken early in a conflict would seek to disable enemy communications and sensors, success in the first stage hinges on "executing a suppression campaign against long range strike systems"—in other words, widespread and persistent bombing of the Chinese homeland.[9] The long-term strategic consequences of such a massive retaliation (or preemption) are dramatic and dire and should give national leaders pause.

Furthermore, the possibility of inadvertently hitting a transporter-erector-launcher carrying a nuclear-armed intercontinental ballistic missile or just "dazzling" a nation's launch detection systems through electronic jamming would dramatically escalate the crisis. China could see this the same way the United States or Soviet Union would have during the later years of the Cold War—as an attempt to preemptively disarm its nuclear deterrent. It may respond in kind, risking a general war.[10]

Facing the possibility of the U.S. military neutralizing its sensor, command, and missile systems, China would have a strong rationale for using them early in a crisis before they are disabled or dispersed and hidden to survive the American suppression campaign. A security dynamic that incentivizes China to use its most advanced weapons early in a crisis—while the United States strikes deeply and continuously on the Chinese homeland to counter and suppress those same weapons—is inherently unstable and could cause a crisis to rapidly spin out of control. In short, it undermines mutual restraint and risks badly distorting the cooperate-compete nature of the U.S.-China relationship. The tactical requirements of an operational concept such as Air-Sea Battle would bind American strategy in a straitjacket and might ultimately be seen as an empty threat to be tested or ignored.

The challenge that spawned Air-Sea Battle must be viewed more broadly than countering the specific capabilities of Chinese ASBMs and anticommunications systems. Fundamentally, it is about America's ability to fulfill its security obligations to its allies in the western Pacific and to ensure the free flow of commerce in the global commons. Defense of allies and deterrence of any threat to free trade, as opposed to power projection for the sake of projecting power, is the central challenge facing the United States.

Certainly, cost is a significant factor. Chinese investments in the ASBM systems that Air-Sea Battle seeks to counter can be much less than the investments the Air-Sea Battle directs—precision missiles and advanced targeting systems. If America's overriding national interest in the western Pacific is the defense of the sovereign rights of allies, leveraging submarines and developing land-based antiair and antiship missile systems on allied soil is an effective and economical approach.

Flexible response during the Cold War was in part about coming to terms with a certain level of vulnerability. It presented options across the spectrum of warfare for dealing with aggression other than just the option of massive nuclear retaliation. The survivability of retaliatory capability was stressed as opposed to first strike or fighting at a high end (nuclear war). The idea in mind was that the latter would undermine deterrence, would fuel the arms race, and was not politically feasible. Furthermore, importance was also placed on counterinsurgency and civic action programs to address the threat in other less costly and dangerous ways. The strategy of flexible response can be a model for the foundation of U.S.-China mutual restraint.

Building a resilient and economical military posture that does not drive rapid escalation but rather facilitates crisis stability is central to this new flexible response. The chains of islands in the western Pacific, most of which are allied with the United States, form a natural base for this posture. Strings of acoustic sensors capable of detecting quiet, modern submarines, coupled with hardened communications infrastructure that is not dependent on vulnerable satellites, would increase the survivability of the defensive network. Austere airstrips could support both strike and support aircraft without the limitations of an aircraft carrier's catapults.

Land-based air defense and antiship missiles are another critical component of a new flexible response. First, they are fielded on a country's sovereign territory, making a preemptive strike against them a significant escalation. Second, they can be hardened and dispersed, presenting a tougher target than a ship, which must retire from the fight after a hit from an ASBM. This increases not only their military value but also their strategic worth as they do not have to be used immediately. Third, missile bases on land are a more capable and economical, though less flexible, method of deploying firepower to a given region.[11] These first three reasons are the foundations for China's investment in such systems as well as justification for American interest. Finally, and unique to America, an island-based defense chain in combination with a broader strategy of engagement presents a tangible, permanent commitment by the United States to its allies in the region—and a better foundation from which to develop varied options to strengthen the U.S. position. While air and naval forces can project power worldwide, they are also transient by nature and can be recommitted elsewhere at a

moment's notice. While this flexibility is beneficial for the operational capabilities of the U.S. military, it can be disconcerting to allies and costly to employ.

The endstate of building and deploying this defensive network of land-based missiles is to create the conditions where America's allies are secure against Chinese attempts to coerce or compel them on their sovereign territory or in the global commons. In a crisis, the United States and China could impose significant costs on each other's air and naval forces operating in the western Pacific, but the destabilizing military need for rapid and preemptive strikes on the sovereign territory of any nation is eliminated. Any escalation from that level would be a deliberate step rather than the inadvertent result of a narrow military need to neutralize ASBMs.

In the wider context of establishing a framework of mutual restraint between the United States and China, in conjunction with a broader engagement strategy, this approach gives both sides flexibility to manage a crisis effectively. Developing and building an island-based hardened infrastructure of sensors and communications, coupled with antiair and antiship missile systems for deployment on the soil of U.S. allies in the Pacific, set the conditions for mutual deterrence while avoiding the destabilizing potential inherent in the current vision of Air-Sea Battle. From this foundation, broader cooperation on a variety of global issues as well as greater freedom of action become possible.

Maintaining Influence

If the fundamental change in the international system is the rise of China, consistency of logic must view this as a global change that involves all elements of national power and not as a predominantly military effort confined to the western Pacific. The United States—and only the United States for the foreseeable future—will be the primary sustainer of the international system that it built along with other likeminded countries over the last 70 years. Realist balance-of-power inclinations must be weighed against a constructivist approach that posits the international system will reflect the inputs entered into it. While these inputs are not exclusively military, hard military power must underwrite diplomatic, economic, and soft power efforts. In this sense, America will continue to provide the collective good of *relative* empathy for and awareness of other countries' needs coupled with the desire and ability to address challenges across the world. In short, power exacts responsibility, and that responsibility requires a vision that transcends narrow, short-term self-interest. Great powers remain great if they promote their own interests—economic, security, and legal—by serving those of others.[12]

Chairman and PLA Chief of General Staff salute as Chinese troops pass in review in Beijing (DOD/D. Myles Cullen)

While military scenarios in the western Pacific close to China can be a zero-sum game, interests farther afield may increasingly converge, or merely not *diverge*, especially in areas such as countering weapons of mass destruction (WMD), ensuring the free flow of energy resources through the global commons, and stabilizing failing states with critical resources. There will still be points of friction, especially given America's (admittedly intermittent) underwriting of the Responsibility to Protect doctrine that contrasts starkly with China's emphasis on state sovereignty as paramount.[13] There may also be struggles over limited strategic resources. Even so, the overarching concept of mutual restraint allows for case-by-case cooperation worldwide and for the United States to act in its own interest by assisting others with theirs.

In all the ways the United States uses force, it must always strive for legitimacy. Defending an ally facing regional aggression, ensuring access to the supply of resources on which the livelihood of billions of people depends, stopping genocide and aiding in humanitarian crises, preventing the use of chemical and biological weapons, and helping other states combat internal threats that also threaten American interests (trafficking of illegal goods, for example) are all examples of occasions when the military might be called on to strengthen an international system built on the laws and norms America helped develop.

This by no means implies that the United States has to become a global policeman, draining its resources in ways that do not promote its national interest. Rather, smaller and shorter operations as well as an increasingly indirect and longer-term approach in conjunction with partners may be able to achieve desired

ends without long-term individual military commitments of scale. Leadership by "pushing on the open door" of converging national interests with China and with partners around the globe will strengthen the international system while conserving American resources.

The first steps in cooperation between the PLA and the wider international security community are being taken. Two notable examples are, first, the ongoing counterpiracy operations in the Gulf of Aden where the PLA Navy has operated as part of a multinational force for several years, and second, China's increasing contributions to UN peacekeeping operations and disaster relief exercises. China previously viewed peacekeeping operations as violations of sovereignty, but now deployments under UN auspices are becoming commonplace.[14]

Another area in which U.S. and Chinese interests may converge is countering WMD. Some claim that it is difficult to see an actual instance in which the United States would employ extensive forces to counter WMD. Yet the 2012 Defense Strategic Guidance makes no claim that countering the proliferation and use of WMD is a less likely mission than employing major weapons systems in a kinetic exchange with China. The United States must be just as ready to simultaneously identify, secure, and triage multiple cache sites as to manage the consequences of a WMD attack within a failing state or on the homeland. This is one of the most complex, challenging, and likely scenarios facing the global community. This challenge requires both significant ready capacity and specific capabilities primarily in the land forces. The initial estimates for securing WMD in Syria, for example, were for around 70,000 soldiers,[15] and more in the case of a disorderly implosion of the Pyongyang regime. Cooperation with China in the latter case could reduce the risk of unintended clashes between the U.S. military and the PLA while both attempt to prevent terrorist smuggling of loose weapons. Even where China may not directly assist the United States and others in neutralizing the WMD threat (in Iran or in the event of collapse of government in Pakistan, for example), China's desire for stability and trade will benefit from America's counter-WMD efforts even if support is publicly disavowed.

In other intersections of interest, cooperation is less certain. The truth of the expression "The Americans are going to Asia and the Asians are going to Africa" is evident in the huge investments in extraction and transport infrastructure Chinese enterprises are making in Africa and elsewhere. Using development assistance, military assistance, and other incentives, China has moved aggressively to assure mineral access in Africa. Southern Africa, for example, contains major reserves of chromium, platinum, manganese, cobalt, and other strategically important minerals. In 2008 Beijing signed a long-term infrastructure development agreement with the Democratic Republic of the Congo worth over $9 billion and received the country's favored access to two rich copper-cobalt deposits.[16] China is doing this in Africa, central Asia, and South and Central America.

This expansion does not foretell certain conflict between Washington and Beijing. Indeed, there is potential for cooperation in stabilizing regions where mutually required strategic resources lie or flow through. On the other hand, it is quite possible for friction between the United States and China to be driven by calculations of potential economic gain in an integrated system. Given mutual restraint underpinned by mutual deterrence, tensions are not as likely to come to open hostilities over whatever can be shared for the benefit of all. Rather, conflicts are more likely to flare up over access to resources or transit chokepoints that can be monopolized. Tensions and proxy wars between the United States and China over such issues are less likely to mimic the political ideology–fueled proxy conflicts of the second half of the 20th century (Angola, Cuba, El Salvador, Greece, Mozambique, and Nicaragua, for example) than the interactions of the Great Powers across the globe in the 19th century.

China is not likely to discern between legitimate and corrupt regimes in its need to access resources, as seen in Africa and South America. The United States, by both unwritten policy and laws such as the Leahy Amendment, is constrained in working with corrupt and brutal regimes, yet it will also desire access to the strategic resources in their countries. These different approaches could put Washington and Beijing at odds, with each side building the capacity of the party that can enable their access. The resulting conflicts may not be directly between the uniformed forces of the United States and China. Rather, they will more likely be fought by, with, and through local and regional partners in locations that are already unstable.

The Future Role of America's Land Forces

The logical extension of this global cooperate-compete dynamic is that maximizing U.S. national interests requires the skillful application of limited and indirect force—in the Asia-Pacific and around the globe. Execution of limited contingency operations (Operation *Just Cause* in Panama, for example), provision of specific capabilities such as missile defense, and military engagement and security cooperation are contributions that land forces will uniquely make both in terms of effectiveness and efficiency. The U.S. military's ability to execute these varied missions has to be reenergized after a decade of constant focus on one type of mission in one part of the world. The ability of the joint force to meet these specific, tailored needs with increasing agility is dependent on Service provisions of unique capabilities for mission requirements as expressed by combatant commanders. But the themes that run through them all is that they are almost certainly conducted by enabling partners to work independently or with us, among populations, and with the support of surrounding countries. Each mission demands regional access, building the capacity of likeminded states to address or assist us in addressing internal or regional problems, and the ability to influence others in order to achieve decisive effects.

Marine watches as PLA soldier looks through optic of M4 carbine during Australian Army Skill at Arms Meeting in Puckapunyal, Australia (U.S. Air Force/ Michael R. Holzworth)

This is a long-term endeavor that must start now. The United States only has to recall its post-9/11 basing agreements in Central Asia to realize that approaches that rely on short-term expedience are fraught with uncertainty and leave little lasting positive impact. This stands in contrast to the seven-decade relationship between the United States and its partners across Europe, where robust partnerships, bases, and access agreements established during World War II and adapted for the Cold War have shown their enduring utility for operations in the Balkans, Libya, Afghanistan, and the Middle East, as well as their productivity in integrating former communist states into the community of democracies. The United States and its partners must now adapt—not shut down—their Middle East and European arrangements, reinvigorate their Asia-Pacific posture in a way that is efficient and flexible, and enhance their partnerships and agreements with Africa and South America to be discreet, precise, and effective. Their military relationships must be strong and vibrant even if the military footprint is not large, or if it is large but of short duration.

In this context of continuously shaping or reshaping an uncertain environment, engagement, relationships, and regional understanding are the only foundation from which to directly meet national interests in agile, tailorable ways. Skeptics of military engagement and security cooperation claim there is no hard evidence that such investments have resulted in concrete measurable outcomes, and in fact American money has often gone to corrupt regimes. This is rather like saying we ought not to invest in the education of inner city youth because there is no clear or direct connection between investments and results. Society accepts some risks in full recognition that progress will require steady investment over many years. Given the evolving security environment, where the more likely threats have access to technology that makes them more lethal, smart choices must be made in those places where progress *over time* is in America's national interest. Prudent engagement is preferable to the alternative of ignoring threats and allowing them to metastasize to the point where they affect important national interests.

The United States has spent significant time and effort building the capacity of security forces in Afghanistan and Iraq over the past decade. The knowledge, skill, and institutional predilection for these capacity-building missions are stronger in the U.S. Army and Marine Corps than ever before. With those wars over or ending, now is the time to reap the benefits of a military that is trained

Houbei-class 002 Fast Attack Missile Craft test fires C-803 antiship missile (*Global Military Review*)

and experienced in working side by side with allied partners by leveraging those skills across the globe. Land forces are uniquely positioned to build the capacity of partners and allies for several reasons. First, while America's naval and air capabilities are unmatched, they are also unmatchable because the cost of building and maintaining the fleets of high-tech ships and planes fielded by the United States is beyond the reach and need of the countries with which America most needs to partner. In contrast, a 10-member squad of Soldiers or Marines has fundamental commonalities with any military. Second, the predominant military service in most countries is the army, giving army-army contacts greater weight in military, political, and security affairs beyond just the employment of land combat forces. Even in East Asia, 22 of 27 chiefs of defense are army officers, and in 2012, the U.S. Army conducted hundreds of exercises, engagements, and exchanges with the vast majority of Asian states. Finally, professionalizing security services and armies yields benefits for all in operations beyond interstate war ranging from counterinsurgency to disaster relief. Instead of clumsy or brutal responses that only foster increased violence, suffering, and instability, a partner nation's military integrated with regional allies and the United States can effectively and efficiently manage the situation for the benefit of all.

To prepare for these partnership missions, in addition to specific mission training, the U.S. Army is regionally aligning its forces by educating and training its Soldiers in the history, language, culture, and specific mission requirements of the regions to which they will deploy. They thereby not only learn the specifics of a particular locality but also gain a broader ability to rapidly develop situational understanding in the event of a contingency operation anywhere. They are expert in their combat skills, and when coupled with U.S.-based global response forces, these regionally aligned forces provide a powerful blend of local knowledge and large-scale capabilities that can execute the full spectrum of activities from security cooperation to support to counterterrorism to large-scale contingency response. Through all they may be asked to do, regionally aligned forces are constantly mindful of the defense strategy directive: partner in myriad ways with other countries' militaries at the behest of the Department of State and combatant commander to increase influence, enable access, and help partners develop the capability to address their own security issues.[17] Ultimately,

presence must be tailored as needed as well as expert, widespread, quiet, respectful, and persistent. The U.S. Army, along with special operations forces and the U.S. Marine Corps, form the core of a global landpower network where the world's challenges are the most complex, where all conflicts will ultimately be solved, and where U.S. leadership is most needed.

Land forces operating as a dispersed network while also rapidly reaggregating in the event of a larger multinational, interagency contingency operation is central to the Chairman's concept of globally integrated operations. This concept demands a military that can quickly combine capabilities across echelons, geographic boundaries, and organizational affiliations, and headquarters that can command it all. In keeping with this imperative, the Army is aligning a division or corps headquarters to each of the six geographic combatant commands, allowing them to gain regional expertise, build enduring relationships, and command all capabilities required for specific missions. These rapidly deployable headquarters will be able to pull from the vast array of capabilities across the Army's Active and Reserve components. They can also work laterally and quickly integrate with the other Services, foreign counterparts, and interagency partners to provide the core of an aggregated whole-of-government response to a regional crisis, integrating all elements of U.S. and allied military power.

Conclusion

As budgets get tight, the temptation will be to drop many of the activities and missions that make a global leader legitimate. That would be a mistake. The alignment of forces now based primarily in the continental United States uses existing capabilities and resources, in effect becoming a cost-effective solution for combatant commanders. Persistent small-footprint activities (or large but short) are low cost when compared to fighting a major prolonged campaign or procuring large, expensive weapons platforms. Presence cannot be shortchanged; it must be sustained widely, lightly, and respectfully across those areas of interest to the United States. Forces must be kept expert and ready for a range of missions. These same forces can rapidly aggregate to address the largest threats. The flexibility of this model—as an integral part of the joint force—is unique, proven, and cost-effective, and the Army is committed to continuously improving it.

The cooperate-compete relationship between the United States and China is complex and involves economic, military, and political interactions across the globe. A myopic view of this relationship focused on countering China's growing military capabilities in the Pacific region with an escalatory warfighting concept obscures the larger strategic picture and is counterproductive for the United States in the long run. A more flexible approach uses all elements of U.S. and partners' powers to maintain stability and security in the Asia-Pacific and will ultimately sustain U.S. global leadership in the world. **JFQ**

Notes

[1] John F. Kennedy, "Remarks in Heber Springs, Arkansas, at the Dedication of Greers Ferry Dam," October 3, 1963, *The American Presidency Project*, available at <www.presidency.ucsb.edu/ws/?pid=9455>.

[2] David Shambaugh, *China Goes Global: The Partial Power* (New York: Oxford University Press, 2013).

[3] "China's Foreign Ports: The New Masters and Commanders," *The Economist*, June 8, 2013, available at <www.economist.com/news/international/21579039-chinas-growing-empire-ports-abroad-mainly-about-trade-not-aggression-new-masters>.

[4] Joseph S. Nye, Jr., *The Future of Power* (New York: PublicAffairs, 2011).

[5] David C. Gompert and Phillip C. Saunders, *The Paradox of Power: Sino-American Strategic Restraint in an Age of Vulnerability* (Washington, DC: NDU Press, 2011), available at <http://ndupress.ndu.edu/Portals/68/Documents/Books/paradox-of-power.pdf>.

[6] *National Security Strategy* (Washington, DC: The White House, May 2010), 43.

[7] *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense* (Washington, DC: Department of Defense [DOD], January 2012), 2.

[8] *Quadrennial Defense Review Report* (Washington, DC: DOD, February 2010), 31.

[9] Jan van Tol, with Mark Gunzinger, Andrew F. Krepinevich, and Jim Thomas, *AirSea Battle: A Point-of-Departure Operational Concept* (Washington, DC: Center for Strategic and Budgetary Assessments, 2010), 53.

[10] Avery Goldstein, "First Things First: The Pressing Danger of Crisis Instability in U.S.-China Relations," *International Security* 37, no. 4 (Spring 2013), 71.

[11] For more in depth analysis, see Jim Thomas, "Why the U.S. Army Needs Missiles," *Foreign Affairs* 92, no. 3 (May/June 2013).

[12] Josef Joffe, "How America Does It," *Foreign Affairs* 76, no. 5 (September/October 1997).

[13] The United Nations Security Council (UNSC) formalized the following wording in Resolution 1674 in 2006: "The *international community*, through the United Nations, also has the *responsibility* to use appropriate diplomatic, humanitarian and other peaceful means, in accordance with Chapters VI and VIII of the Charter, to help protect populations from genocide, war crimes, ethnic cleansing and crimes against humanity. In this context, we *are prepared to take collective action*, in a timely and decisive manner . . . *should peaceful means be inadequate and national authorities manifestly fail to protect their populations* from genocide, war crimes, ethnic cleansing and crimes against humanity" (emphasis added). See UNSC Resolution 1674, S/RES/1674 (2006), available at <www.un.org/en/ga/search/view_doc.asp?symbol=S/RES/1674(2006)>.

[14] Shambaugh, chapter 4.

[15] Spencer Ackerman, "U.S. Military Intervention in Syria Would Create Unintended Consequences," *The Guardian*, July 22, 2013.

[16] Kent Hughes Butts and Brent Bankus, "China's Pursuit of Africa's Natural Resources," Center for Strategic Leadership Issue Paper, vol. 1-09, June 2009, 4, available at <www.csl.army.mil/usacsl/publications/IP7_11.pdf>.

[17] Kristina Wong, "Army Plans to Shift Troops to U.S. Africa Command: Aims for Quick Crisis Response," *The Washington Times*, December 23, 2012, available at <www.washingtontimes.com/news/2012/dec/23/army-plans-to-shift-troops-to-us-africa-command/#ixzz2L1VZIqis>.

E-8C Joint Surveillance and Target Attack Radar System aircraft leaves Robins Air Force Base, Georgia (U.S. Air Force/Andrew Lee)

Resilient Command and Control

The Need for Distributed Control

By Gilmary Michael Hostage III and Larry R. Broadwell, Jr.

A guiding principle that has long underpinned the projection of dominant U.S. Air Force airpower is the tenet of *centralized control and decentralized execution*. This foundational concept is deeply rooted in Air Force history and remains a cornerstone of its doctrine. It informs how we organize and train for combat and helps prioritize the weapons systems and technologies we pursue. It has proved integral to every successful contemporary air campaign by synergizing a single commander capable of balancing tactical needs with strategic requirements with tactical operators capable of fostering initiative and flexibility.

General Gilmary Michael "Mike" Hostage III, USAF, is Commander of Air Combat Command. Lieutenant Colonel Larry R. Broadwell, Jr., USAF, is Executive Officer to the Commander of Air Combat Command.

While the relevance of this simple, elegant tenet is unquestionable, the simplicity of centralized control and decentralized execution renders it incomplete when applied to modern contested and denied operations. This insufficiency has not and will not be evidenced by our experiences in Iraq, Afghanistan, or Libya as the resiliency of our networks, datalinks, and communications went unchallenged. However, in antiaccess/area-denial (A2/AD) environments, the resilience of our networks, datalinks, and communications will almost certainly be contested. It is during these moments that distributed control, not centralized control, will provide the continued orchestration of combat airpower. Stated more completely, resilient command and control (C2) in an A2/AD environment will require *centralized command, distributed control, and decentralized execution*.

We have grown accustomed to the benefit of an unfettered network-enabled battlespace where our networks, datalinks, and communications operate without interruption. Since the advent of such capabilities, U.S. and allied forces have enjoyed an exclusive advantage. Consequently, it is preposterous to believe any sophisticated future adversary would not possess at least the desire and, likely, the capability to disrupt our C2 architecture. Therefore, we must be prepared to synchronize and project combat airpower through distributed control during periods when our C2 architecture is strained by asymmetric challenges or saturated with intense air activity. If the Combined Forces Air Component Commander (CFACC) becomes isolated, the concept of distributed control empowers subordinate commanders, organizations, operations centers, and battle management command and

control (BMC2) platforms to amalgamate otherwise disconnected units into teams of synchronized combat airpower. Stated explicitly, the power of distributed control is its ability to join otherwise disconnected and independent units, thus increasing the resilience of our overall airpower projection.

A resilient C2 architecture is essential to executing the full range of military operations in an A2/AD environment. Resilient C2 is also foundational to the conduct of parallel operations and reinforces the elements of operational design—simultaneity, depth, timing, and tempo. While the resilience of our C2 architecture has gone untested for decades, we cannot assume this will hold true in the future. Inevitably, our ability to conduct distributed control in the absence of or degradation in centralized control will prove essential to providing continued dominant combat airpower for U.S. and allied warfighters.

Distributed Control

Distributed control can be defined as the conditional, adaptive delegation or assumption of control activities through orders or protocols to synchronize operations, maintain initiative, and achieve commander's intent. Distributed control could occur explicitly or implicitly; the CFACC could delegate some control authority to a subordinate unit, or the subordinate unit could assume a particular level of control authority by following predetermined lost-communication protocols. Distributed control occurs largely at the operational and tactical levels of warfare. At the operational level, the CFACC might choose to implement distributed control to focus his attention on areas of more intense combat or, perhaps, reduce demands on limited Air Operations Center (AOC) bandwidth. Just below the AOC, subordinate operations centers and BMC2 platforms are both uniquely capable of executing distributed control. Either could be delegated additional authorities by the CFACC to control operations in an area experiencing a modest level of activity, thus allowing the AOC to focus control on areas of more intense fighting. Through the use of established protocols, BMC2 platforms such as the E-2, E-3, E-8, or a Control and Reporting Center could assume additional control activities from the AOC after being cut off for a predetermined period of time. Finally at the tactical level, flight leads and mission commanders regularly exercise distributed control by redirecting to alternate targets or rerolling to a secondary mission. They do this based on their knowledge of the commander's intent and tactical circumstances.

Distributed control is the process (or the *how*) of transitioning control authority from one entity to another. Distributed control absolutely does not delegate *command* authorities or *command* responsibilities from the CFACC or a subordinate commander to another. Neither the Combined Forces Commander nor the Commander of Air Force Forces (COMAFFOR) would relinquish their command authorities under distributed control. Subordinate units, operations centers, or BMC2 platforms would be delegated or assume additional control activities dependent upon their individual capacity to control and when specified triggering events have occurred. Distributed control could occur over short (minutes to hours) or long (days to weeks) periods. For brief C2 disruptions, subordinate BMC2 platforms would simply assume control activities normally performed by the CFACC and continue to execute using the guidance provided in the Air Tasking Order (ATO) and Air Operations Directive. For disruptions lasting longer than a day, BMC2 platforms, in conjunction with lower echelons of command, could also begin executing a series of preplanned ATOs covering several days. It is even possible, if isolated for many days to weeks, for subordinate units to self-organize into larger, more comprehensive units using distributed control.

Self-organization would only occur in the direst of circumstances and does not include modifications to the chain of command, leaving prehostility command authorities and responsibilities intact. Furthermore, any self-organization would remain under the command of the CFACC and should evolve as expressed in his mission intent orders about extended periods of lost communications. These new organizations could become as robust as an Air Expeditionary Task Force (AETF), thus husbanding resources from otherwise isolated units—fighters, bombers, tankers, and intelligence, surveillance, and reconnaissance (ISR) aircraft—into a composite fighting force. Again, a distributed control construct does not necessitate the transfer of additional command authority from the COMAFFOR, or the CFACC, to the AETF commander. The commander of the ad hoc AETF would retain all previous command authorities, perhaps as a numbered Air Force or wing commander, while also gaining responsibility for the tactical control activities of his newly federated forces. COMAFFOR command authorities would continue to be retained by the CFACC. The AETF commander would be expected to advance the scope and complexity of operations following the CFACC's intent and utilizing distributed control, all the while attempting to reestablish normal C2 links.

The Critical Element

In addition to doctrine, organization, and technology, our Airmen are critical to executing distributed control. Airmen are the ultimate source of our combat capability. They possess the knowledge, creativity, and drive to overcome highly complex and dynamic challenges whenever and wherever the Nation asks. They are possessed of a unique air-mindedness. They are creative, highly adaptive, and capable of rapidly making bold decisions. They are our most precious resource and *the* critical element of successful distributed control. The trust shared by Airmen underpins the process of distributed control; without trust, distributed control fails. Trusted autonomy allows Airmen to act with initiative knowing the decisions they make and the actions they take will be supported by the commanders who have placed their trust in them. The expectation that

Crew chief marshals F-16 Fighting Falcon from hardened aircraft shelter in Germany in support of Operation *Odyssey Dawn* (U.S. Air Force/Benjamin Wilson)

Airmen are empowered to operate with trusted autonomy is who we are and how we fight.

During my first operational assignment, I flew one of the earliest versions of the F-16. The avionics aboard that Viper were archaic in comparison to the F-16 of today, never mind our most advanced fighters, the F-22 Raptor and F-35 Lightning II. The Block 10 Viper's radar could only acquire and track targets just beyond what could be seen by the naked eye. It did not carry a beyond-visual-range missile and was limited to six primitive AIM-9 infrared missiles. It had no advanced communication equipment, and it could not import data from outside airborne or ground-based platforms; datalinks had yet to be incorporated into the F-16. There was no all-seeing AOC Link 16, which is the backbone of our modern tactical C2 architecture. The real-time, unblinking eye provided by our modern ISR platforms could only be found in the imaginations of George Orwell and H.G. Wells.

From my time as a young wingman, the expectation that our rudimentary avionics would not compensate for the complexities of aerial combat drove our tactics, techniques, and procedures (TTPs), and also our attitude. More important than being prepared to "chattermark" to a clear radio channel, we were prepared to alter our TTPs or change the plan in real time without guidance or permission from above. Our attitude of bold, calculated initiative was integral to mission success then as it will be in the future. The battlefields of Iraq and Afghanistan have grown a generation of Airmen accustomed to leveraging a robust, unparalleled C2 architecture: communications, datalinks, navigational systems, and sensors. Because future conflicts are unlikely to afford the same unfettered access, these Airmen must be prepared to deal with a momentary or prolonged interruption of some or all of that C2 architecture. They must be ready to overcome varying levels of isolation or confusion associated with fighting in an A2/AD environment. The incorporation of distributed control into our daily training, TTPs, and exercises will prepare the force to fight through these challenges rather than be relegated to inaction.

Airmen empowered with trusted autonomy are more likely to seize initiative by assuming control authorities implicitly rather than waiting for those authorities to be delegated explicitly. The ability to maintain initiative and act in the throes of combat is key to putting combat airpower over friendly forces or taking it to the enemy. To enable this initiative, the commander must have clearly expressed his intent to subordinate commanders and their units. From this initial direction, subordinate commanders and units are able to intelligently conduct distributed control as well as decentralized execution in support of the commander's principal goals and objectives and in the absence of direct contact. The following examples are provided to further clarify this concept.

Pilots briefed in support of Operation *Odyssey Dawn* (U.S. Air Force/Benjamin Wilson)

Preparing for Distributed Control

Distributed control exists in the Air Force today to some degree. All flight leads and mission commanders have been trained to think for themselves, know the mission, and make decisions within guidelines to achieve success. However, the past decades of intense counterinsurgency operations, coupled with pervasive networks and high-level command visibility of combat situations, have muted some Airmen's instincts for independent operations. The intensity of peer-adversary conflict will bring challenges that require tactical leaders who can exercise judgment and achieve mission success despite disrupted C2.

In addition to rekindling this concept at the tactical level, the institutionalization of strategic and operational distributed control in our force will require changes in Service doctrine, organization, TTPs, training and exercises, and the technologies we pursue. Evolving the central tenet of centralized control and decentralized execution to centralized command, distributed control, and decentralized execution will likely encounter significant institutional inertia. Doctrine is formed by critical analysis and military experience and evolves through the incorporation of contemporary thinking, new experiences, and cutting-edge technologies. Because doctrine presents considerations on how to accomplish military objectives, the Nation's rebalance to the Pacific should drive a critical review and adaptation of existing doctrine in a highly contested environment—on scale with the past decade's renewal of counterinsurgency doctrine.

Organizational adaptability is essential to effective operations under distributed control. The ability of an AETF, Air Expeditionary Wing, or Expeditionary Operations Group commander to assume control authority of otherwise independent or isolated forces is fundamental to the concept of distributed control. The gears of distributed control are lubricated by the proper delegation and assumption of control authorities. Fundamental to executing distributed control is a clear expression of commander's intent and the triggers to achieve it. Distributed control requires subordinate commanders to be prepared to initiate or fulfill new control authority relationships—an arduous task that must be codified and exercised well before being put into practice. Every foreign-based or expeditionary unit, operations center, or BMC2 platform should have established distributed control TTPs and routinely practice them. The CFACC should also tailor unit predeployment preparation messages to prioritize distributed control training scenarios. Lastly, while in garrison, units should be exposed to a variety of training and exercise opportunities that hone and evaluate their capability to conduct distributed control. Air Combat Command has already embarked on just such a program.

Readiness Program–2 (RP-2) is a comprehensive approach to the ACC ability to conduct operations in an A2/AD environment. The program enhances and normalizes training in a highly contested environment and ensures our Airmen routinely practice how to deal with the momentary or prolonged interruption of unique communication and datalink systems. RP-2 forces operators to practice existing—as well as develop new—TTPs aimed at expanding tactical expertise operating in a contested environment. Reinvigorating this skillset not only prepares the force to operate in an A2/AD environment but also prepares it to operate under distributed control. Building on tactical level efforts, we should expand RP-2 into operational exercises (for example, Red Flag, an advanced aerial combat training exercise hosted at Nellis Air Force Base, Nevada, and Eielson Air Force Base, Alaska) and incorporate distributed control into our practice of peer-adversary air combat. Our adversaries should know that attacks on our C2 architecture will not stop us and that we will continue to bring lethal combat airpower. Our adversary's

U.S. Air Force F-35A Lightning II Joint Strike Fighters fly in formation off right wing of KC-135R Stratotanker following aerial refueling mission along Florida coast (U.S. Air Force/John R. Nimmo, Sr.)

calculus must account for our advancing doctrine, TTPs, skills, and technology. We must aggressively pursue technologies and TTPs that will enable or enhance resilient C2.

While never a panacea, technical solutions can certainly aid in the implementation of distributed control. The concept of a combat cloud is one technical solution that offers much promise. The strength of the combat cloud is in its pervasiveness. The combat cloud would use a federation of airborne and ground-based systems (nodes) that gather, process, store, and disseminate information. As opposed to a hierarchy, the combat cloud is constructed more like a heterarchy, where connected nodes operate independently from any associated ranking. Information imported to the combat cloud from a strategic system, for example, would not necessarily obviate or overwrite information from a tactical system. The combat cloud propagates information discretely without presenting finite, targetable nodes. Because a plethora of contributing nodes port information into the combat cloud, no vital node or nodes exist, eliminating the single-point weakness of a central repository. As nodes are added or disconnected from the combat cloud, its information steadily builds or gracefully degrades, with the latter being an acute advantage. Graceful degradation allows the combat cloud to propagate dormant information where an information void would otherwise exist. This benefit, however, brings with it the first potential challenge of a combat cloud: data latency. Data distributed by any cloud must include protocols that allow the user, or more accurately, the user's system, to filter or flag data deemed too old. In addition to latency, data authenticity is a concern emblematic of a heterarchic system such as the combat cloud.

The combat cloud's multinodal and amorphous nature makes it susceptible to injections of corrupt or malicious data. In addition to requiring secure and reliable connections between each node, algorithms capable of fusing, updating, and pruning voluminous information offer an effective counter to inauthentic data. Rather than identifying and removing countless bits of false data, sophisticated algorithms would continuously resolve contrasting data—true, false, or inaccurate—into a consortable and fused solution. Outlying data, whether contributed by friendly (inaccurate) nodes or enemy (false) nodes, would simply be pruned from the combat cloud—a machine-to-machine wiki-approach to ensuring authenticity of the cloud's data.

Explicit Distribution of Control Authorities

The CFACC, through the AOC, possesses tremendous capacity both in bandwidth and in manpower to provide effective C2 during major combat operations. Yet as the U.S. Central Command CFACC, I established and practiced procedures for operating with constrained bandwidth. We established rules for prioritizing all users, thus ensuring the most critical communication would continue during periods of limited bandwidth. A CFACC could choose to lower excessive C2 bandwidth demands by explicitly distributing control authorities to lower echelon

commanders or control centers. In addition to bandwidth, effective C2 of large-scale, intense combat operations requires substantial manpower. A CFACC might choose to delegate control authorities to commanders or control centers in sectors with lower operations tempo to focus the AOC staff on areas experiencing intense combat. Whether to manage human or computer bandwidth or to focus attention, explicitly distributing control authorities is a viable option in managing C2 demands.

Implicit Assumption of Control Authorities

BMC2 platforms and operations centers provide a critical linkage between the CFACC and tactical airpower in combat. Because of their significant C2 capacity, they are delegated sufficient control authorities to allow them to manage portions of the ATO. They are uniquely capable of providing timely, dynamic direction to tactical airpower to assist with attacking complex problems and better achieving the CFACC's intent. Despite this delegation, the CFACC retains needed control authorities under normal operating conditions. In a near-peer fight, it is possible for the AOC, and therefore the CFACC, to be cut off abruptly from subordinate elements of the C2 architecture before having an opportunity to delegate control authorities explicitly (as in the previous vignette). Under these circumstances, BMC2 platforms and operations centers have to be ready to implicitly assume control authorities. Without doing so, combat airpower will rapidly lose the initiative and slowly devolve into disparate, isolated units trying to defend themselves. In contrast, a BMC2 platform or operations center could continue to synchronize airpower regionally by assuming control activities normally executed by the CFACC—given that the CFACC had provided suitable commander's intent and a standing set of protocols for such an assumption. With designated authorities, a BMC2 platform or operations center would have the ability to continue to orchestrate regional air operations until the CFACC regained C2 connectivity at the AOC or, potentially, relocated to an alternate control center. Again, the key to this process is establishing and practicing detailed protocols for when and how to assume control authorities as well as clear guidance as to commander's intent. Without such direction, subordinates would be forced to wait for direction from the CFACC.

Control Authorities at the Tactical Level

Tactical operators must have a clear understanding of the authorities they possess as well as the CFACC's intent before flying their missions. The clear expression and understanding of these authorities and intent would promote mission success and save lives. A strike package commander flying an F-35 must understand authorities to induce or forestall major combat operations. If the sparring between two belligerent nations has made combat inevitable, the strike package commander would likely launch with authorities delegated by the CFACC to initiate combat operations. Well before reaching prestrike orbit, the strike package commander would have internalized the CFACC's intent and objectives, the master air attack plan, the ATO, special instructions, and rules of engagement. She understands her role in the strategic picture and becomes a tactical extension of the CFACC. She does not require an explicit "go" command; she is entrusted with employing her flight of F-35s as the situation unfolds and without necessarily being told when or how. Sometimes, however, the road to combat operations follows a less predictable path—a narrow one shrouded in uncertainty where the stakes are high and authorities are retained at the highest levels.

The Air Force's tremendous capability to hold any worldwide target at risk affords our nation's leaders unique options to deal with national security threats. Global precision attack capabilities are continuously enhanced through acquiring advanced technologies and by conducting scenario-based integrated exercises. Sophisticated platforms have the ability to attack targets previously thought to be too complex, elusive, or well defended. Tremendous political sensitivities and risk surround these types of operations; therefore, the authority to initiate them is seldom delegated from the most senior civilian leaders. The F-35 package commander would do much of the same preparation for this type of mission. In addition, she would likely receive additional training (simulations and exercises) focused on the orchestration and integration of a specialized tactical problem. In stark contrast to the previous example, she would most likely not be authorized to conduct the mission absent the go call. She would marshal her forces airborne in preparation for combat, anticipating the command to execute at a predetermined time. She would know that a go command is required to conduct offensive strike operations regardless of the presentation of enemy forces. She would be prepared, however, to retrograde if attacked, reserving the use of deadly force to defend herself, her flight, and other friendly forces. As the CFACC, I placed tremendous trust in Airmen operating at the tactical level. I was confident in their ability to use the training and authorities they were given to achieve their mission and drive toward my intent whether a go command was needed or not.

The mantra of *centralized command, distributed control, and decentralized execution* is not a change from our past, but a healthy adaptation to the realities of contemporary warfare. The keys to effective use of distributed control are the clear articulation of intent and standing directions for when and how to assume this action. However, the linchpin of success in any fight will be the ingenuity, aggressiveness, and fighting spirit of our Airmen. Execution of distributed control, whether intentional or as a result of enemy activity, hinges on a force that is conditioned to deal with contested environments and empowered with doctrine that ensures that America's Airmen will not be deterred by asymmetric attacks on our command and control architecture or leadership nodes. JFQ

U.S. and Angolan airmen discuss unloading C-130J Super Hercules as part of African Partnership Flight with Angolan and Zambian air forces (U.S. Air Force/Benjamin Wilson)

Conducting Operations in a Mission Partner Environment

By Martin M. Westphal and Thomas C. Lang

We need innovation in how we operate—our ability to re-imagine the way we fight will determine if we succeed or fail.

—General Martin E. Dempsey
Chairman's Strategic Direction to the Joint Force

Martin M. Westphal is Vice Director of Command, Control, Communications, and Computers (C4)/Cyber, Joint Staff J6. Thomas C. Lang is Chief of the Interoperability and Integration Division, Joint Staff J6. This article is based on the Joint Staff J6, Director for C4/Cyber Future Mission Network 90-Day Study Report.

The joint force is undergoing a major cultural change. It is a fact that current and future operations will find the joint force organizationally and operationally integrated with allies, coalition members, interagency partners, intergovernmental and nongovernmental organizations, private volunteer groups, and private-sector partners. The days of each coalition member operating in defined areas and only on its respective national secret networks are over. Moving the coalition fight off of national secret networks to

a tailored mission network in which all coalition members share and operate as equals is not only a major cultural shift but also a command and control (C2) force multiplier. Information-sharing bilateral agreements must transition to warfighting multilateral agreements on a single security domain allowing nations, including the United States, to bring their own equipment. To implement a Mission Partner Environment (MPE), the United States and its mission partners must repurpose materiel and nonmateriel capabilities used for training and operations today. MPE implementation increases combatant commander and component battlefield effectiveness and drives down costs through unity of effort.

The past decade of military operations has provided the Department of Defense (DOD) with many enduring lessons that must be applied to the current and future joint force. From major combat operations to humanitarian relief efforts, the United States has encountered a challenging and complex operational environment including asymmetric threats and an array of actors. Furthermore, these operations were conducted with a diverse set of mission partners ranging from the familiar to the not so familiar. This multifaceted operational environment, coupled with the range of mission partners, demonstrates the need for commanders to possess a capability enabling unity of action.

Today's combatant commanders and their components require a warfighting capability that improves mission partner integration and interoperability and sets the conditions for integrated operations. Forged in the lessons learned from current operations, MPE is an operations-based construct providing the commander the agility to rapidly and decisively act, bringing to bear the unique capabilities and collective force of all to achieve mission success.

Past Is Prologue

In 2008, commanders noted that coalition forces in Afghanistan could not effectively communicate and share commander's guidance, mission information, and critical intelligence. Additionally, any networks that supported operations in Afghanistan tended to be nation-specific and not oriented to coalition data-sharing and enterprise mission execution. The net effect of these problems was increased risk to life, inefficient use of resources, and jeopardized mission accomplishment. From the U.S. perspective, many of these problems stemmed from the joint force standard: the requirement that American formations be led only by American commanders and the U.S. military propensity to use only the Secure Internet Protocol Router Network (SIPRNet) for warfighting operations. This operational framework resulted in a C2 structure that provided little to no ability for commanders to effectively combine U.S. and non-U.S. formations in the same battlespace or realize their full combat potential. Additionally, this arrangement prevented coalition battlespace owners from effectively leveraging key U.S. enablers that existed solely on SIPRNet, such as joint fires and intelligence, surveillance, and reconnaissance capabilities.

Prior to Afghanistan, operations with mission partners did not demand an open framework for greater information-sharing. For instance, operations in Iraq did not present a significant challenge for mission partner operations due to the relatively small number of partners, their assigned missions, and their familiarity with U.S. operations. Even at the peak of the surge in Operation *Iraqi Freedom* during 2007, the mission partner contribution was only 6 percent of the total personnel strength, and except for one specific area, all battlespace commanders were American. The one exception was in southern Iraq in the vicinity of Basra. The United Kingdom (UK) controlled this sector, and the unique military relationship between Washington and London helped to mitigate the friction caused by disparate C2 systems.[1] In this environment, the primary purpose for a mission partner network simply became a means for the United States to communicate with its mission partners but not a means to fight a true coalition fight. These early efforts at mission partner coordination were marked by heavy use of liaison officers and the manual (air gap) data transfers among American, allied, and coalition networks. This information-sharing process is slow and subject to errors, and it does not achieve the intended unity of effort or speed of command to deliver the required operational effects.

In Afghanistan, the mission partner dynamics dramatically changed. First, Afghanistan is a North Atlantic Treaty Organization (NATO) mission. Second, in comparison to the surge in *Iraqi Freedom*, the task organization for the coalition force for the 2010 Operation *Enduring Freedom* surge consisted of over 40 troop-contributing nations. The influx of coalition forces resulted in 27 percent of the total strength being non-American.[2] Third, many of the battlespace owners were not American. To realize the operational value of formations from the many contributing nations, commanders needed the flexibility to mix U.S. and non-U.S. formations down to the company level. These operational realities required a new way of thinking on how to share information and create the necessary unity of effort in theater. Simply put, the inability of commanders to speak with immediacy and share information equally with all mission partners inhibited the ability to rapidly direct U.S. and allied task forces. As the problem suggests, a single secure communication network became essential to the campaign objectives and priorities in Afghanistan. During 2008–2010, the Afghanistan Mission Network (AMN) became the International Security Assistance Force (ISAF) primary mission network. This network remains the primary C2 framework for mission partner operations in Afghanistan today.

Technically, the AMN is a federation of networks linked to a NATO core mission secret network, complying with Alliance security and information assurance policies. Information and data shared between AMN participants are organized to support agreed upon mission threads. AMN put all network users on a common mission network separate

from its own national networks to achieve ISAF operational priorities and objectives. By May 2011, 48 NATO and partner nations were successfully operating in the AMN federation. The Chairman of the Joint Chiefs of Staff saw the need to ensure that the lessons learned from AMN are institutionalized as a future joint force capability. In August 2011 the Joint Staff J6 was assigned to "evolve the Future Mission Network."[3]

Culture Shock

General Stanley McChrystal once stated, "You don't give a senior leader a Blackberry or an iPhone and make [him] a digital leader."[4] While these advanced technological solutions can enable a user, the commander must have the vision and skill to create a shared understanding of mission and purpose with a diverse set of team members. This task is daunting enough within the U.S. forces with their rich histories, insular cultures, specific systems, and unique lexicons. When allies and perhaps governmental and nongovernmental organizations are included, the mission commander is faced with a full-blown information-sharing crisis. Complex partnered operations demand the ability to establish and maintain a common understanding of the operational environment through shared situational awareness. To achieve this aim, the mission commander must provide timely, reliable, interoperable, and secure information-sharing capabilities for planning, directing, and controlling the activities of all assigned forces. Significantly, the information environment is accelerated by the idea of interconnected, integrated joint forces and mission partners conducting dispersed operations around the globe.

From moving supplies in the wake of a hurricane, to ordering troops to the Pacific, to addressing mission partners on joint task force operations, the global dependence on integrated networks and shared information is stated in the Chairman's *Capstone Concept for Joint Operations: Joint Force 2020* (CCJO). With an emphasis on globally integrated operations, the CCJO outlines the need for the joint force to partner and to possess the ability to integrate with U.S. agencies, partner militaries, and indigenous and regional stakeholders—in short, with mission partners. Globally integrated operations will rely on a robust and secure information environment envisioned by the new DOD Joint Information Environment (JIE).

The JIE provides a shared information technology (IT) infrastructure, responsive set of enterprise services, and mission-integrated single security architecture. The JIE represents the IT capabilities and infrastructure that enable the joint force commander's ability to establish an MPE to support coalition operations. An MPE capability framework is inextricably linked to the JIE. Though IT and networks are critical elements of an MPE capability, these are merely the tools that allow the commander to visualize the battlespace, direct action in a timely manner, and establish trust with mission partners. An MPE capability framework is needed now to support the commander's ability to create unity of effort through the seamless exchange of information with mission partners.

The MPE framework is *commander-centric*, providing the means for commanders to effectively share their intent, communicate mission orders, and empower decentralized execution during mission partner operations. There are currently plans for building a standing coalition network for the United States to put in place quickly for future operations with mission partners. No one can argue against the need for such a capability, but a great deal of caution on the development of a persistent coalition network is warranted in the current fiscal environment. When faced with a new requirement, the U.S. military often defaults to the most comfortable solution, seeking a technological fix or building a new materiel system. As already established, the United States is executing MPE in Afghanistan today and has most of what is already needed to establish an information-sharing capability to launch the next MPE and meet the commander's next mission. By changing mindsets and simply adding some basic nonmateriel solutions, the joint force can apply current technologies and systems to meet warfighters' demands.

What the joint force needs now is a mission partner organizational framework to drive policy, IT transport, security, systems, and applications, along with concept of operations and standards. This mostly nonmaterial framework provides for a continual and dynamic process to inform improved information-sharing based on requirements and input from the combatant commanders and mission partners.

Describing the MPE

A Mission Partner Environment applies human and technical dimensions for sharing commander's intent, communicating mission orders, and empowering decentralized operations in keeping with the tenets of mission command.[5] The MPE capability framework is supported by a mission network in which partners plan, prepare, and execute operations at a single security classification level with a common language. The objective of the framework is to take the fight off SIPRNet, reduce the defended surface area, and leverage existing national networks. For instance, when the UK comes to fight alongside the United States, it does not have to drop what it has trained with and pick up an American product. The United States and its mission partners want to use familiar tools when it comes to a fight. The ultimate MPE vision is a framework of core services linked to authoritative data sources with the goal of allowing any partner to quickly join the network and receive specific services without major reconfigurations to their own national networks.

For success, MPE requires an overarching integrated approach that incorporates mission partners early in design, creation, and implementation. Early planning with partners builds a common basis for action, establishes the means and processes for mission partner integration, and identifies the methods to resolve knowledge management and interoperability challenges. Joint forces that effectively apply the principles of an MPE framework will have the tools to more

rapidly form the collaborative networks (both IT-based and human) required for effective globally integrated operations with mission partners. MPE addresses the requirement for American forces to be able to lead a mission that includes partners and to operate a network separate and distinct from its national networks, specifically tailored to the mission and to the partners. Likewise, NATO has created a similar capability called Federated Mission Networking (FMN) to describe how Alliance forces will lead and operate a mission network. As expected, there are many conceptual and architectural similarities between the U.S. MPE and NATO FMN efforts. While this is a notable achievement, there is a need to implement the MPE and FMN concepts and architectures in a similar fashion and then train to them.

In keeping with the Chairman's Mission Command philosophy, the MPE capability framework provides strategic, operational, and tactical flexibility for all commanders to execute; it provides the means to clearly communicate commander's intent and achieves desired operational effects with all mission partners. MPE is a federated network concept supporting the connection of multiple networks through existing national systems with applications and tools to enable mission partner information-sharing within a single environment. Most important, the MPE is established within mission partner instructions where individual nations are resourced and equipped independently, each contributing its own equipment and resources to the mission network to achieve an optimal C2 environment. The MPE capability framework is not building or acquiring new systems; it addresses the need to shape and repurpose existing mission partner material and nonmateriel capabilities to address the commander's need for unity of effort and operational effectiveness based on the seamless exchange of information throughout an operation.

In Practice

From a U.S. perspective, joint forces currently deploy with two basic networks that support the C2 of forces via IT: SIPRNet and the Nonclassified Internet Protocol Router Network (NIPRNet). SIPRNet is used for sharing classified information among U.S. joint forces while NIPRNet is used for sharing unclassified information. The problem is that neither network can nor should communicate directly with a mission partner's network. Although there are other solutions via bilateral agreements and cross-domain technologies, the preferred near-term technique for sharing information with multiple partners for an assigned mission is the method employed in Afghanistan. The MPE framework builds and improves upon the federated network model of AMN. As with AMN, a theater agnostic framework requires American forces to repurpose existing equipment (for example, switches, routers, encryption devices, and so forth) or possess another "stack" of equipment to establish their mission network.

Sailor assigned to amphibious transport dock ship USS *Ponce* uses voice-recognition system to command virtual simulation of *Ponce* in Conning Officer Virtual Environment (U.S. Navy/Nathanael Miller)

Near-term emergent operations with mission partners require U.S. forces to deploy with SIPRNet, NIPRNet, and a mission network capability to connect with potential partners. The initial MPE capability is focused on six core services that provide basic human-to-human communications to support information-sharing in a mission partner operating environment:

- email with attachments
- text chat
- Web browsing
- video-teleconferencing
- voice over Internet protocol
- global address list sharing.

These services have been demonstrated within AMN and are essential to the implementation of an MPE framework. For today's fight, U.S. materiel and nonmateriel MPE capabilities will be whatever is "on the shelf"—it really is not new, but the environment in which these capabilities are employed and made secure will be new, as in a new concept of employment. As the American IT infrastructure of JIE evolves to cloud and virtualization technologies, so too must the MPE framework be able to adapt to improve the effectiveness and efficiencies associated with the establishment and operation of a mission partner network.

U.S. European Command's exercise Combined Endeavor 2013 (CE13) represented a significant paradigm shift from previous years. No longer was point-to-point technical interoperability the overarching focus with a cadre of observers to document, assess, and report results. Rather, CE13 focused

Marines set up command operation center to prepare for future squadron conditions in Germany (U.S. Marine Corps/Unique B. Roberts)

on implementing an MPE capability framework. The exercise provided the participating 40 nations and organizations a methodology for partners to plan, prepare, and execute a joint force mission on a single classification level with a common language. Employing core MPE precepts, CE13 provided the means to clearly communicate commander's intent for desired operational effects with all mission partners. Mission partner joining and exiting instructions created by the exercise community during the planning process represent the collective knowledge of the participating nations/organizations gained over 19 years, as well as lessons learned from 12 years in Afghanistan. These instructions matured the MPE concept, and the participants gained a clear understanding of how to operate within and share information in a coalition environment. Upcoming combatant commander exercises can only improve mission partner unity of effort using this framework.

"Harmony—Even Vicious Harmony . . . [Is] Based on Trust"[6]

The fundamental challenge of an MPE is changing the U.S. operational practice of relying on SIPRNet as the primary tool for information exchange during an operation. To that end, this current norm generates strategic, operational, and tactical limitations or restrictions to national leadership, as well as combatant and deployed commanders. As one general put it, "We must move the fight or operation off of SIPRNet to a new normal—a mission partnered environment including a mission network."[7] This network belongs to the mission commander. In the past, it was normal for the commander in theater to rely on traditional networks such as SIPRNet for operations. A national network (such as SIPRNet) must meet the needs of a diverse user base with many missions and is controlled by a national authority that usually exhibits considerable stasis. Without ownership, the mission commander cannot readily mold the environment to the specific needs of the mission and its information-sharing requirements. The commander must be able to bend and mold the environment. This shaping extends to adding and removing mission partners as membership changes during an operation. In this construct, at the mission commander's direction, information transmitted on the network must be releasable to all members, and all partners must be included on the network. Free flow of information to all mission partners is essential, so the use of firewalls or cross-domain solutions is eliminated in this environment.[8]

In cooperation with the combatant commander and U.S. Cyber Command, the mission commander must balance the need to share information with the need to protect. Mission partner trust cannot be surged; it must be established upfront through informed and inclusive information-sharing policies, training, and rehearsals. As stated in the Chairman's White Paper on Mission Command, "Building trust with subordinates and *partners* may be the most important action a commander will perform."[9] Coupled tightly with this element of trust is the commander's responsibility to balance the operational benefits of federating networks with the inherent risks that must be addressed through information assurance. Adjusting the attitudes and operational approaches of the U.S. military to support effective MPE employment requires changes to doctrine, education, and training. As relationships are forged with partners through training and exercises, so too is trust. With shared trust comes an understanding of the shared risks and the need to address cyber vulnerabilities before they become issues. But more important are the operational benefits and gains offered by the MPE.

Looking Ahead

Many of the principles and best practices for more effective and efficient mission partnered operations are being applied in Afghanistan and need to be codified and institutionalized. Specifically, an agreed-upon MPE organizational framework to drive policy, transport, systems/tools/applications, and agreed upon mission partner joining and exiting instructions (across nations and combatant commands) for coalition operations is necessary. This requires a persistent DOD-level process orchestrated by the Office of the Secretary of Defense and based on requirements and input from the combatant commands. Furthermore, combatant commanders should ensure there is an adequate governance structure in place to address their components' and coalition part-

ners' requirements for an event that could happen tomorrow. Additionally, as forces draw down in Afghanistan, the Joint Staff needs to preserve the lessons learned by introducing MPE language into joint doctrinal publications and tactics, techniques, and procedures. Meanwhile, Service and joint schools should provide instruction on MPE while combatant commands explore and identify training exercises to introduce MPE precepts with mission partners. For the foreseeable future, Service components should remain equipped to support a mission network. This means forces deploy with SIPRNet, NIPRNet, and a third "stack." In many cases, this third stack can be realized through repurposing Combined Enterprise Regional Information Exchange System equipment.

The intent is to establish an MPE threshold capability in the near term (2014–2015) comprised of four recommended elements. First, each combatant command in coordination with its components should publish instructions for mission partners on how they can join and exit their theater mission networks. Additionally, these operationally focused instructions should be standardized across the regional combatant commands in recognition that mission partners often support more than one theater. Second, there should be Joint Staff activity focusing solely on finding and fixing mission partner interoperability issues before an operation occurs. For example, the Coalition Interoperability, Assurance, and Validation activity currently supporting operations in Afghanistan provides a viable model. It could be preserved and expanded. Third, the DOD Chief Information Officer could craft appropriate policy to specifically address rapid and efficient certification and accreditation processes for the establishment of mission networks and their associated systems and services. Finally, U.S. joint forces must begin practicing the principles and precepts of MPE in joint and coalition exercises. MPE needs a "if you can train to it and measure its readiness—it exists" mentality. Mission partner training and associated readiness metrics for an MPE capability framework would effect the necessary cultural changes to ensure joint forces are ready to operate on phase one/day one of any emergent operation. As experience and trust with mission partners grow, interoperability improves, and technological capabilities advance, the MPE framework could expand to include more complex information-sharing such as a digital common operational picture, targeting, fires, and seamless C2 among nontraditional mission partners. From a U.S. training and readiness perspective, the pace for MPE implementation falls on the combatant commanders and their components. They should set the education and training conditions during peacetime for the successful institutionalization of an MPE capability.

Conclusion

Globally integrated operations emphasize the need to partner, which requires the joint force to integrate with the full range of mission partners (interagency, intergovernmental, multinational, nongovernmental, private volunteer, and private sector). Moving the United States off SIPRNet for mission-partnered operations is more effective. MPE is a paradigm shift from information-sharing to coalition operations using a mission network for operations and warfighting with information-sharing as a byproduct of effective command and control. It is based on common standards, concepts of operations, and tactics, techniques, and procedures among nations, combatant commanders, and their components. An MPE capability is a critical enabling element of the Chairman's Mission Command operational objective of a "deeply interdependent" joint force. As such, its key attributes and enablers must be recognized, understood, and embedded in training and exercise objectives by combatant commanders and their components, likely mission partners, and warriors in the field. To achieve the Chairman's vision of a globally integrated force, the Armed Forces need to arrive on day one of the next crisis with a mission partner mindset ready to execute operations with allied, coalition, interagency, or intergovernmental mission partners. **JFQ**

Notes

[1] Brigadier General Brian Donahue, USA (Ret.), interview by author, The Pentagon, October 21, 2011.

[2] Ibid.

[3] Chairman of the Joint Chiefs of Staff, August 26, 2011. Document in authors' possession.

[4] Spencer Ackerman, "Stan McChrystal's Very Human Wired War," *Wired*, January 26, 2011, available at <www.wired.com/dangerroom/2011/01/stan-mcchrystals-very-human-wired-war/>.

[5] Lieutenant General Mark S. Bowman, USA, "Future Mission Network Study Report," December 17, 2012. Document in authors' possession.

[6] General James Mattis, USMC, Keynote Address, "Keeping the Edge: Revitalizing America's Military Officer Corps," Center for a New American Security, Washington, DC, February 18, 2010, available at <www.cnas.org/media-and-events/cnas-events/keeping-the-edge-revitalizing-americas-military-fffficer-corps#.U1gE3FxUGVk>.

[7] Donahue, interview.

[8] Gerald McGowan and Gregory Sisson, "Integration of Coalition Training into a Mission Network," Paper No. 11174, Interservice/Industry Training, Simulation, and Education Conference, U.S. Joint Forces Command, Suffolk, VA, 2011.

[9] Martin E. Dempsey, "Mission Command White Paper," April 3, 2012. Emphasis added. Both the Joint Information Environment and Mission Partner Environment have traceability to the Chairman's recent core strategic documents addressing joint capability.

62nd Operations Group executive officer briefs international fellows from U.S. Army War College on scientific research mission in Antarctica supported by Airmen from Joint Base Lewis-McChord (U.S. Army/Jennifer Spradlin)

Strengthening PME at the Senior Level

The Case of the U.S. Army War College

By Anthony Cucolo and Lance Betros

The end of American combat operations in Iraq and Afghanistan marks the start of a new interwar period for the U.S. Army. Like its predecessors, the emerging period will see dramatic declines in military budgets and manpower. Congress already has legislated steep reductions in defense spending that will lead to corresponding reductions in Army programs and personnel. Under current plans, the personnel strength of the Active-duty Army will shrink from 570,000 to 490,000 by 2015, and even steeper cuts are now on the table.[1]

Given the uncertain budgetary and security environments, the Army's most senior leaders have resolved to invest in human capital as the best way to prepare for future challenges. Chief of Staff General Raymond T. Odierno, for example, called for an "intellectual renaissance" that would revitalize professional education and produce officers increasingly capable of thinking through the most difficult problems, especially at the strategic level.[2] General Robert Cone, commander of U.S. Army Training and Doctrine Command, also called for improving senior-level education. He cited the need at the U.S. Army War College to strengthen the faculty, modify the curriculum, and invest in the best equipment and facilities. According

Major General Anthony Cucolo, USA, is the 49th Commandant of the U.S. Army War College. Dr. Lance Betros, Brigadier General (Ret.), is Provost of the U.S. Army War College.

to General Cone, "There is no reason not to demand the equivalent of . . . a Princeton-level education in strategy from the Army War College."[3]

This article reports on the initiatives now under way at the Army War College to strengthen its educational program. These initiatives are taking place in the context of educational reform across the military Services.[4] Chairman of the Joint Chiefs of Staff General Martin Dempsey spearheaded the larger effort by ordering a review of joint professional military education that has generated productive debate among military and civilian educators.[5] By rendering this report on the Army War College, we seek to further the multi-Service debate on the value of senior-level education and the best practices for conducting it.

Institutional Assessment

In the summer of 2012, General Odierno directed the War College to conduct an institutional self-assessment and recommend improvements to strategic-level education. The self-assessment revealed, on the one hand, that the War College had successfully adapted its academic program to the challenges of fighting two concurrent wars. It confirmed, on the other hand, the need to retool that program now that the wars were ending and to redress problems associated with academic governance. On the latter points, many critics of senior-level education have made similar assertions in a corpus of literature too compelling to ignore.[6] One such critic, a former military faculty member at the War College and now a professor at a civilian university, characterized the War College as "good, but not great"; the gap between what the War College "was and what it could be" was one of his "greatest frustrations" as a faculty member.[7]

On the heels of the institutional self-assessment came a strategic review of the academic program. Begun in October 2012, the review lasted 9 months and involved faculty and staff from across the institution. Broad-based participation ensured transparency of process and leveraged the collective wisdom of those who knew the institution best. Additionally, it encouraged widespread support of the initiatives resulting from the review and allowed early implementation of the changes targeting the most pressing institutional needs.[8]

The changes resulting from the self-assessment and academic strategic review fell into four broad categories: faculty, curriculum, students, and integration. Within each area was a set of goals that would form the nucleus of a change plan. This article describes the most important initiatives.

Faculty

Nothing is more important to the success of an educational institution than the quality of its faculty. The War College faculty—a blend of civilian educators and military officers of all Services—was strong, but institutional policies sapped its potential. The principal problem was the laxity of academic promotion standards, as faculty members only needed to be good teachers and loyal employees to ensure their continued employment. Pay increases depended more on seniority than the usual standards of academic excellence: teaching, scholarship, and service. Most War College faculty members were indeed fine teachers and public servants, and some engaged in serious research and writing. On the whole, however, the civilian faculty dismissed scholarship either as unnecessary or low priority. It was not entirely their fault, as the War College had placed a heavy emphasis on teaching and therefore did not require scholarly output from most of the faculty.[9]

To reorient expectations, the War College implemented a major revision of the policy governing the civilian faculty. While acknowledging the primacy of teaching, the new policy jettisoned the assumption that the War College, as a professional school, should not require its faculty to engage in scholarship. On the contrary, it emphasized that civilian faculty members must "apply themselves to serious engagement with a body of professional literature and produce scholarly work that is insightful, wise, and deeply informed. . . . Engaging in scholarship and bringing that scholarship into the classroom is the mark of a self-confident, energetic faculty that values its own knowledge, wisdom, and insight."[10]

The new policy divided the faculty into three tracks—academic, practitioner, and research—to accommodate the variety of functions performed by the civilian faculty. Those in the academic track are primarily the Ph.D. faculty whose principal duty on most days is teaching. Practitioners are primarily teachers also, but they tend to be non-Ph.D. holders who possess niche expertise needed for professional military education. Faculty members in the research track focus primarily on research, writing, and publications that answer the needs of the Army and the War College curriculum.[11] Regardless of track, all faculty members must meet rigorous standards of excellence to be promoted, and all are expected to excel in teaching, scholarship, and service to varying degrees.

In conjunction with the new faculty standards, the War College adopted a revised salary schedule that favors performance over longevity. Henceforth, a faculty member's academic rank depends solely on credentials and performance, not longevity, and his or her pay is calculated accordingly. Under the new pay policy, an assistant professor may not earn more than an associate professor, who may not earn more than a full professor. The pay bands are wide enough to accommodate the compensation requirements within each academic rank and discipline; more important, they serve as powerful incentives for faculty excellence.[12]

The heightened expectations for the faculty came with commensurate resources and opportunities. Starting in academic year 2013–2014, for example, full-pay sabbaticals expanded from 6 to 10 months (every 7th year). Additionally, the new policy encouraged faculty members to apply for other forms of voluntary absences—administrative leave with pay, leave without pay, and temporary external assignments—to engage in scholarship and service.[13] While these absences add incrementally to the workload of the present-for-duty faculty, they provide

Marine Corps Commandant General James F. Amos addresses Marine students in commandant's conference room at U.S. Army War College (U.S. Marine Corps/Mallory S. VanderSchans)

valuable opportunities for professional development and high-level contributions to the Army, Department of Defense, and other governmental organizations.

Another faculty-related initiative was the creation of a permanent faculty council. Following its inaugural meeting in October 2012, the council quickly established itself as an influential source of advice on policy issues and a venue for voicing faculty concerns.[14] Its leaders pushed aggressively for needed changes; they developed the faculty promotion standards described above and took the lead in many of the initiatives discussed below. During academic year 2013–2014, the faculty council established a formal charter that institutionalized that body as an instrument of governance for the long term.

Curriculum

The War College's core curriculum grew significantly over the past two decades. In the early 1990s it consisted of four courses that ended by mid-December, but it reached into early March by academic year 2006.[15] The growth was due primarily to the exigencies of war, and it responded to the requirements placed on the War College from the Department of the Army, combatant commands, and the Joint Staff for greater emphasis on practical subjects. Course directors were conscientious in adding lessons and class hours, but the result was increased redundancy in the curriculum and less ability to tailor the War College experience to each student's specific needs. More significant, a longer core curriculum did not necessarily equate to a stronger educational experience. According to a former visiting professor well versed in professional military education, the expanded curriculum focused heavily on process—"planning, organization, employment, administration, service/defense/joint/interagency process, and the like—a kind of graduate-level national defense 'civics.'" As a professional school, the War College could not ignore these subjects, but their extensive coverage in the core curriculum left less time for higher level learning.[16]

Another curriculum-related problem was the inability to assess student performance beyond the pass-fail system in each course and the student surveys at the end of the year.[17] Students spent much time in seminar, but there were inconsistent standards of performance from one classroom to the next and no reliable method of assessing student learning across the core curriculum. As a result, the faculty could not adequately measure how well students had mastered the institutional learning objectives that guide curriculum development.

Several initiatives are addressing the above concerns. First, a new set of institutional learning objectives—a product of the academic strategic review—sharpened the focus on higher level learning (table 1). The new objectives place added

emphasis on critical and creative thinking, especially in dealing with surprise, uncertainty, and change. Additionally, they address the need to communicate clearly, persuasively, and courageously and to embrace the values of the professional ethic in the context of military leadership and decisionmaking. Finally, they reinforce the traditional focus on subjects related to strategy formulation and the employment of military forces at the strategic level.[18]

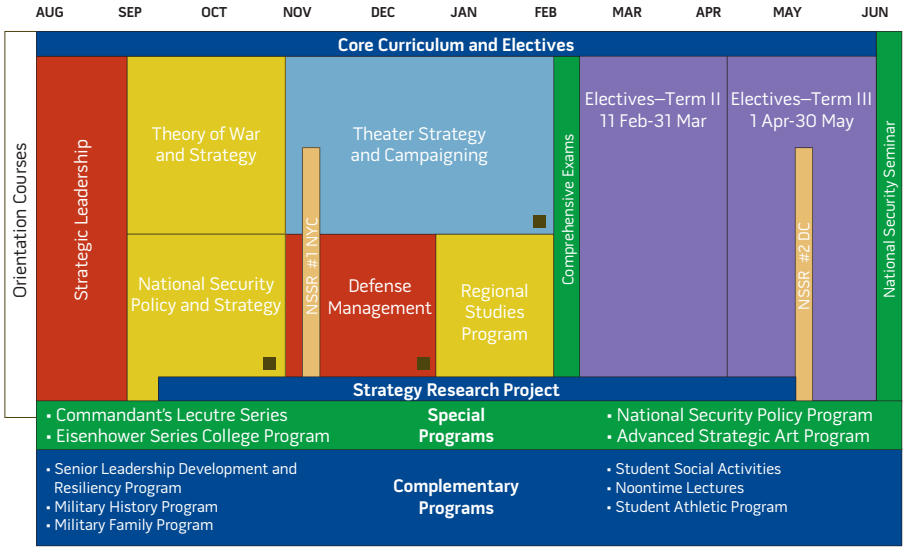
A second initiative shortened the core curriculum by over a month—the result of an internal study showing redundancy in meeting the learning objectives for each course.[19] The shortened core courses came with new requirements for oral presentations to exercise students' speaking abilities; additionally, they included a focused writing program to help students communicate effectively with policymakers. As part of the latter effort, the War College extended the deadline for completing the strategy research project—the culminating written requirement of the academic year—by nearly a month to allow more time for research, analysis, and writing. Another salutary effect of the shortened core curriculum was to enable students to take more electives in their areas of interest and thus add relevancy to the educational experience.

A third major change concerned course scheduling. Previously the core courses progressed sequentially, providing an orderly handoff from one academic department to the next. While administratively simple, sequential scheduling complicated student efforts to integrate the concepts of various courses, so the War College adopted concurrent instruction to facilitate concept intergration starting in academic year 2013–2014. As an example, Theory of War and Strategy, primarily a history and theory course, and National Security Policy and Strategy, primarily a political science course, were taught on the same day, each with 80-minute lessons. Alternatively, Theater Strategy and Campaigning, primarily a war-planning course, was taught on alternating days first with Defense Management, primarily a resource-planning course, and later with electives in the Regional Studies Program. The figure shows the placement of concurrent courses during the academic year.

Table 1. Institutional Learning Objectives

1	Think critically and creatively in applying joint warfighting principles at the strategic level.
2	Communicate clearly, persuasively, and courageously.
3	Anticipate and adapt to surprise and uncertainty.
4	Recognize change and lead transitions.
5	Make ethical decisions and promote a military culture that reflects the values and traditions of the Profession of Arms.
6	Operate on intent through trust, empowerment, and understanding (Mission Command).
7	Understand the strategic security environment and the contributions of all instruments of national power.
8	Apply theories of war and strategy to national security challenges.
9	Understand the processes and relationships of Department of Defense, interagency, intergovernmental, multinational, and nongovernmental organizations.
10	Appreciate the utility of creatively employing land power in joint, interagency, intergovernmental, and multinational operations.

Figure. Resident Education Curriculum for Academic Year 2013–2014



National Security Staff Ride (NSSR) #1 (NYC) 20–23 Nov 13 • National Security Staff Ride (NSSR) #2 (DC) 6–8 May 14 • Graduation 7 Jun 14
Major Experiential Learning Modules

As of this writing, the War College is assessing the effectiveness of concurrent instruction relative to sequential instruction. The results of the assessment will determine whether concurrent or sequential instruction—or some combination of the two—will be the method of choice in the future. So far, student and faculty feedback has been mixed, particularly toward the practice of same-day classes in two separate courses; hence the likelihood of continued experimentation in this area is high.

While the initiatives described above focus mostly on the scope and delivery of existing courses, a separate initiative is under way to review the content of the curriculum as a whole. The review will proceed through 2014 and conclude in time to implement the new curriculum during academic year 2015–2016. The most important design criterion is to emphasize the learning tasks associated with education over those associated with training. Accordingly, the new curriculum will elevate analysis, synthesis, and evaluation over knowledge, comprehension, and application.[20] Strategic leaders must indeed

Table 2. Composition of Resident Class of 2014

Student Source	Number in Class
Army (216 total)	
Active National Guard Reserve	172 22 22
Air Force	32
Navy	14
Marine Corps	17
Coast Guard	1
Civilian	28
International Fellows	77
Total	**385**

Source: Office of the Registrar, U.S. Army War College. In addition to the 10-month resident program, the War College runs a 2-year distance education program. A new class matriculates each year, so at any given time there are two distance classes enrolled. The 2014 distance class has 369 students: 344 Army (38 Active, 150 National Guard, and 156 Army Reserve), 7 Marine Corps, 1 Navy, 3 Air Force, 8 Federal civilians, and 6 international officers.

Table 3. Roles of Graduates

Mission-specific Roles	
Strategic advisor	Render accurate, credible, and courageous advice to senior military and civilian leaders.
Strategic theorist	Leverage relevant disciplines to develop theories relating to national security.
Strategic planner	Develop strategic plans that link effectively ends, ways, and means.
Strategic leader	Provide vision and direction to accomplish strategic-level missions.
Persistent Roles	
Steward of the profession	Assert guardianship of the people and institutions that comprise the military profession; serve as a role model of ethical leadership.
Critical and reflective thinker	Raise relevant questions, identify problems, envision outcomes, evaluate options, challenge assumptions, and learn continuously.
Networked leader	Nurture professional relationships—military and civilian, U.S. and foreign—that advance national security objectives.
Resilient leader	Master the ability to manage adversity, sustain physical and emotional health, stay true to professional values, and thrive in strategic-level assignments.

Source: "Resident Program Outcomes: What USAWC Provides to the Army through the 'Carlisle Experience,'" *PowerPoint* slide presentation, August 1, 2013, copy in authors' file.

know, comprehend, and apply, but their greatest value to the Army and the Nation will be the ability to think at higher levels. Another feature of the new curriculum will be renewed emphasis on historical analysis. In all core courses, historical case studies will provide students a common base of understanding and a framework for analysis, synthesis, and evaluation.

Perhaps the most significant curriculum-related change, and the source of greatest angst for students, is the oral comprehensive exam, begun on a trial basis in academic year 2012–2013. The exam typifies that of other graduate programs by requiring each student to engage intellectually with a team of faculty members for up to an hour. It tests a student's ability to integrate course concepts into a coherent framework of knowledge, think strategically, and communicate effectively. Collectively, the exams reveal areas of curricular strength and weakness to the faculty. As evidence of the exam's rigor, 14 students failed on the first try and 2 failed the make-up.

The oral comprehensive exam received overwhelmingly positive reviews from students during the pilot year and has since become a graduation requirement.[21] Henceforth, students who fail the exam and the make-up will appear before an academic review board and likely will not receive a War College diploma. Additionally, they will face whatever administrative action their Services deem appropriate.

Students

The resident student body at the War College represents a diverse assemblage of intellectual and professional talent. As shown in table 2, roughly 60 percent of the students are Army officers, including about 20 percent from the Reserve components. The rest are officers from other Services, civilians from Federal agencies, and officers from friendly nations— "international fellows."

War College students stay busy during the school year. While academics take up the most time by far, students avail themselves of a wide range of extracurricular activities offered at Carlisle Barracks, the idyllic Army base in historic Carlisle, Pennsylvania. The totality of the War College year, academic and nonacademic, is known informally as the "Carlisle experience" by the generations of graduates who remember it fondly. Despite the happy memories, however, the amalgam of activities comprising the Carlisle experience had always been more the result of happenstance than institutional design. As a result, the developmental benefits were less than they might have been.

In early 2013 the War College formalized its approach to enhance the professional development of students. The new "Carlisle Experience" program requires the school to prioritize the myriad activities available to students during the academic year. The intent is to create an environment that develops students holistically and, in particular, helps them make the difficult transition from tactical to strategic leaders. As part of the program's implementation, the faculty developed a list of roles associated with strategic leadership. Some are mission specific, such as planning and

General Dempsey speaks at U.S. Army War College (DOD/Chuck Marsh)

advising at the strategic level, while others are persistent, such as critical thinking and being a steward of the military profession. Table 3 lists the most important roles in each category.

With these roles in mind, the War College prioritized all the activities available to students. The academic curriculum obviously received the highest priority and greatest resources because it prepares students for most of the mission-specific and persistent roles of strategic leaders. Other activities such as noontime lectures and family resiliency training received less priority but still merited institutional resources to varying degrees. Still others such as social events and civilian community programs had the lowest priority. They were advertised to students but came with no resources. As a new program, the Carlisle Experience will improve with time, but the underlying principle of coordinating academic and nonacademic activities to achieve the best developmental effect is unlikely to change.

In addition to the Carlisle Experience, another student-focused initiative is recognition of superior academic performance. The War College had long favored a pass-fail system for each course and for the year as a whole, as opposed to letter or numeric grades. The intent was to mitigate the ill effects of competitiveness within the small groups of students assigned to each seminar; additionally, the policy recognized that students arrived with different levels of preparedness for graduate education. The pass-fail system resulted in virtually every graduate receiving an academic evaluation report noting that he or she "met course standards." No one received an "exceeds course standards" rating, thus rendering the academic evaluation report professionally meaningless.[22]

Starting in academic year 2013–2014, students will receive numeric course-end and year-end grades that reflect the quality of their work. Based on those grades and other criteria, the best will be recognized as "distinguished graduates" on the academic evaluation report. The primary reasons for the change are to apprise students of their academic progress and inform the Services of their most intellectually talented officers. Additionally, the War College can now recognize deserving students in ways similar to the honors accorded high achievers at respected colleges and universities elsewhere. To do otherwise would invite conjecture about the quality of the curriculum and promote the belief that the War College coddles poor performers—precisely the perceptions the War College wishes to dispel.

Also in academic year 2013–2014, the War College is requiring students to access course materials through mobile computing devices. The change was meant to familiarize students with technology that is becoming standard across the Services. With this goal in mind, the school purchased over 500 tablet computers for use by students and faculty and

Table 4. School, Centers, and Institutes

School, Center, or Institute	Headed by	Principal Missions
School of Strategic Landpower	Dean	Resident education program (10 months) Distance education program (2 years) International fellows program
Strategic Studies Institute	Director	Army-directed research U.S. Army War College Press Publication of *Parameters* (quarterly journal) U.S. Army War College fellows Communicative arts program
Peacekeeping and Stability Operations Institute	Director	Research Doctrine development Assistance to deploying units
Center for Strategic Leadership and Development	Director	Strategic-level wargames Strategic-level short courses Basic course for Army strategists
Army Heritage and Education Center	Director	Army historical archive and research facility Military history library Military history museum

uploaded unclassified course materials on cloud-based servers. Additionally, it improved wireless connectivity in academic buildings across the campus.

On the positive side, students and faculty who were not already using mobile devices are quickly learning how. Tablet computers have become as ubiquitous as notebooks (the paper kind) in seminar rooms, lecture halls, and libraries, and they routinely accompany students to the athletic fields. Faculty members are likewise getting more comfortable with the devices in and out of the classroom. On the negative side, some students and faculty are frustrated by the inherent limitations of mobile devices such as slow downloads, broken links, small screens, and the quirkiness of certain applications.

The most important consideration in assessing the utility of mobile devices is their effectiveness as learning tools. A growing body of research suggests that electronic devices work better for readings that are short and descriptive rather than long and analytical. In the former case, the reader can glean the necessary information quickly and move on to another task; in the latter, reading comprehension may suffer from the inability to negotiate the text in an intuitive and tactile way.[23] In the absence of definitive scientific answers, the War College must carefully assess its experiment in mobile computing to determine which academic materials are best delivered electronically or by the printing plant. Answers are needed soon; starting in academic year 2015–2016 students will be required to have their own mobile-computing devices to access course materials.

Integration

A principal finding of the academic strategic review was that the War College's component organizations could and should work together more effectively. While the School of Strategic Landpower shoulders the heaviest academic burden with its resident and distance education programs, the centers and institutes provide much support. Table 4 lists the names and principal missions of the component organizations.

The emphasis on integrating the school, centers, and institutes is yielding results. The School of Strategic Landpower incorporated the annual strategy conference—an event planned and executed by the Strategic Studies Institute for the benefit of the Army—into its resident curriculum. The wargames conducted by the Center for Strategic Leadership and Development now benefit from the participation of the students (especially the international fellows) and faculty from the School of Strategic Landpower; conversely, the school benefits from the opportunity to apply academic theories and concepts to contemporary security problems. The Army Heritage and Education Center assumed control over all library operations at the War College, including the superb facility formerly organic to the School of Strategic Landpower. The combined library offers students greater access to the college's archival holdings and research facilities. Faculty members from the Peacekeeping and Stability Operations Institute, in addition to their primary duties, develop course materials, teach electives, and guide student research in the School of Strategic Landpower.

Publication is another activity that benefits from better integration. In past years, each organization within the college published its scholarship independently and under a separate cover. The effect was to obscure the totality of the scholarly work emanating from Carlisle Barracks and reduce efficiency in the publication process. The situation changed for the better in 2012 with the creation of the U.S. Army War College Press, embedded in the Strategic Studies Institute. Since then all War College scholarship conforms to the press's publication standards and branding. Even *Parameters*, the War College's quarterly journal, now displays the press's logo to clarify its connection to the larger institution. In addition to its role in publishing official scholarship, the press serves as a convenient outlet for faculty and student scholarship on topics relating to national security.

Information technology holds great promise as a lever of integration. The academic strategic review demonstrated the desirability of improving connectivity among students, faculty, and staff at the War College. Additionally, it highlighted the potential of transforming the school into a source of knowledge and collaboration for its graduates worldwide and for national security professionals of all stripes. Toward these ends, the college established the goal of creating a networked community of scholars and practitioners consisting of its faculty, staff, students, U.S. and international graduates, and affiliates. Some pieces of the knowledge network already exist, and work is under

way to improve the system. To be sure, building the knowledge network is complex and will take much time, effort, and intellectual energy, but when complete it will be one of the War College's most powerful integrative tools.

The changes under way align with the Army Chief of Staff's vision for an intellectual renaissance in military education at the senior level. They took shape following an institutional self-assessment and a strategic review of the academic program. Under the headings of faculty, curriculum, students, and integration, the War College has undertaken initiatives to enhance the quality of professional military education. The stakes are high, especially for a military Service facing steep cuts in personnel and resources. If the Army is to emerge from this interwar period ready to fight and win the next war, and to accomplish the many other tasks traditionally performed by land forces, the best it can do now is to invest heavily in the intellectual development of its future strategic leaders. The goal of the U.S Army War College is to help the Nation get the best possible return on that investment. **JFQ**

Notes

[1] Budget Control Act of 2011, Public Law 112-25, 112th Cong. 1st sess., S. 365, 125 Stat. 240, August 2, 2011. President Barack Obama's proposed defense budget for fiscal year 2015 would cut Army strength to 440,000. See Nick Simeone, "Hagel Outlines Budget Reducing Troop Strength, Force Structure," American Forces Press Services, February 24, 2014, available at <www.defense.gov/news/newsarticle.aspx?id=121703>.

[2] Raymond T. Odierno, James F. Amos, and William H. McRaven, "Strategic Landpower: Winning the Clash of Wills," U.S. Army, U.S. Marine Corps, and U.S. Special Operations Command, May 2013.

[3] General Robert W. Cone, "The Future Army: Preparation and Readiness," *Military Review*, July–August 2013, 5.

[4] See Gregg F. Martin and John W. Yaeger, "Break Out: A Plan for Better Equipping the Nation's Future Strategic Leaders," *Joint Force Quarterly* 73 (2nd Quarter 2014).

[5] General Dempsey has been a powerful advocate of educational reform in the military, as noted in several Joint Staff publications; see "Joint Education White Paper," July 16, 2012; *Capstone Concept for Joint Operations: Joint Force 2020* (Washington, DC: Joint Chiefs of Staff, September 10, 2012); *Review of Joint Education: Final Report of the J7/Military Education Coordination Council*, June 24, 2013.

[6] Examples of the literature of criticism include Joan Johnson-Freese, *Educating America's Military* (New York: Routledge, 2013); Daniel J. Hughes, "Professors in the Colonels' World," in *Military Culture and Education*, ed. Douglas Highbee (Burlington, VT: Ashgate Publishing Company, 2010); George E. Reed, "The Pen and the Sword: Faculty Management Challenges in the Mixed Cultural Environment of a War College," *Joint Force Quarterly* 72 (1st Quarter 2014); Gary Schaub, Jr., "A PME Survivor on How to Fix the War College: Take It Back to the Future," *Best Defense,* May 23, 2012, available at <http://ricks.foreignpolicy.com/posts/2012/05/23/a_pme_survivor_on_how_to_fix_the_war_college_system_take_it_back_to_the_future>; and Richard H. Kohn, "Beyond Sequester: Improving National Defense in an Age of Austerity," *Joint Force Quarterly* 70 (3rd Quarter 2013).

[7] George E. Reed, "Examining the War Colleges from an Administrative Perspective," unpublished paper presented at the annual conference of the International Studies Association, San Francisco, April 5, 2013. Reed is a former War College student and military faculty member who culminated his military career as director of the War College's Command and Leadership program. On retiring from Active duty, he transitioned to civilian academia and is a tenured faculty member at the University of San Diego. Despite his criticism of the War College, Reed appreciated the "intellectual awakening" he received there and the opportunity for deep thinking in national security affairs. George E. Reed, "What's Wrong and What's Right with the War Colleges?" *Defense-Policy.org,* July 1, 2011.

[8] "Strategic Review of the USAWC Academic Program," author's copy, information briefing presented at Army War College faculty call, August 16, 2013.

[9] A major exception was the faculty of the Strategic Studies Institute, the research and publication arm of the War College.

[10] Carlisle Barracks Memorandum 690-2, "Employment under Title 10, United States Code, Section 4021," May 6, 2014, 5–6.

[11] Ibid., J-10 and J-11.

[12] The revised salary schedule went into effect in 2013. It affects faculty members who are newly hired, promoted to a higher academic rank, or reappointed.

[13] Carlisle Barracks Memorandum 690-2, paragraph 6.n ("Voluntary Absences").

[14] Memorandum from provost to faculty council, author's copy, "Guidance for Organizing the Faculty Council," October 4, 2012.

[15] Information provided by U.S. Army War College Assessments Office, September 12, 2013.

[16] Richard H. Kohn, "History at the Army War College," unpublished paper presented to the dean of the U.S. Army War College, Spring 2007. Dr. Kohn was the General Omar N. Bradley Professor of Strategic Leadership during academic year 2006–2007.

[17] The War College surveys its students after every core course and upon conclusion of the academic year. The responses tend to be overwhelmingly positive due to the students' generally positive outlook and the amicable relationships developed with their instructors. On the end-of-year survey for academic year 2012–2013, 94 percent of resident students expressed a high level of satisfaction with the academic program, and 95.5 percent perceived that the overall War College experience contributed to their professional development ("very satisfied" and "satisfied" responses combined). These percentages are similar to those in other categories of the end-of-year survey; see U.S. Army War College Office of Institutional Assessment, "End of Year Survey, Resident Class, AY 2013," August 19, 2013, 22.

[18] The new institutional learning objectives go into effect starting academic year 2014–2015. Objectives 1, 3, 4, 5, 6, and 7 were adapted from the Desired Leader Attributes approved by the Chairman of the Joint Chiefs of Staff. See General Martin E. Dempsey, Memorandum for Chiefs of the Military Services, Subject: "Desired Leader Attributes for Joint Force 2020," CM0166-13, June 28, 2013.

[19] "Joint Learning Objectives Crosswalk," slide presentation, author's copy, February 18, 2013.

[20] In designing the curriculum, the War College uses the hierarchy of learning objectives described in Benjamin Bloom et al., eds., *Taxonomy of Educational Objectives: The Classification of Educational Goals* (New York: Longmans, Green, 1956). The hierarchy, from lowest to highest, is knowledge, comprehension, application, analysis, synthesis, and evaluation. More recent versions of the hierarchy substitute "creativity" for synthesis and place creativity at the top of the hierarchy.

[21] Ninety-six percent of students "agreed" or "strongly agreed" that they understood the link between the oral comprehensive exam and the learning objectives of the core curriculum. See "End of Year Survey, Resident Class, AY 2013," August 19, 2013, 21.

[22] Department of the Army Form 1059, "Service School Academic Evaluation Report," March 2006, has sections for recognizing students who exceed course standards. Through academic year 2012–2013, the War College stamped over these sections with "Not used."

[23] Feris Jabr, "The Reading Brain in the Digital Age: The Science of Paper versus Screens," *Scientific American*, April 11, 2013, available at <www.scientificamerican.com/article.cfm?id=reading-paper-screens>.

Arleigh Burke–class guided-missile destroyer USS *Decatur* operations officer answers questions during port visit in Chennai, India, to commemorate Women's History Month (U.S. Navy/Jennifer A. Villalovos)

The Counterproductive "Sea of Sameness" in PME

By Joan Johnson-Freese, Ellen Haring, and Marybeth Ulrich

In his 2012 Mission Command White Paper, General Martin Dempsey highlighted the "increasingly competitive and interconnected" world and noted the commander's need for "mental agility."[1] He also emphasized the role education plays in developing mental agility. Additionally, in a 2013 interview on National Public Radio, General Dempsey stated that he foresees "a military that has to adapt to a changing world, [and] not just a socially changing world but literally a demographically changing world."[2] In terms of how those changes would affect military recruitment, he stated, "we're going to need to attract as much diversity and as much talent as we can possibly attract."[3]

Diversity is important not because of some sense of entitlement or to meet potentially self-imposed minimal quotas, but because of the value that multiple perspectives bring to any learning organization. Alex Pentland, named by *Forbes* as one of the seven most powerful data scientists in the world and director of the

Dr. Joan Johnson-Freese is a Professor of National Security Affairs at the Naval War College. Colonel Ellen Haring, USA (Ret.), is Program Director of the Combat Integration Initiative at Women in International Security in Bristow, Virginia. Dr. Marybeth Ulrich is a Professor of Government in the Department of National Security and Strategy at the U.S. Army War College.

Massachusetts Institute of Technology's (MIT's) Human Dynamics Laboratory, recently wrote about the value of diversity in *Wired*:

The collective intelligence of a community comes from idea flow; we learn from the ideas that surround us, and others learn from us. . . . When the flow of ideas incorporates a constant stream of outside ideas as well, then the individuals in the community make better decisions than they could on their own. Diversity of viewpoint and experience is an important success factor when harvesting innovative ideas.[4]

Table. Number and Percentage of Female PME Faculty in Academic Year 2013–2014

Service	Senior Service School	Command and Staff College
Navy	27 (8 percent)	27 (8 percent)
Army	7 (7.5 percent)	X (5 percent) (in 2012)
Air Force	2 (3 percent)	11 (9 percent)
Marine Corps	1 (9 percent)	2 (5 percent)

Note: Accurate statistics were difficult to compile. We gathered these data from senior Service school Web sites and information provided by faculty at the institutions. Air Command and Staff College (ACSC) numbers, for example, were provided by a faculty member. Data at all institutions, however, often include multiple positions categorized as "faculty," which are actually largely staff positions. Slightly higher numbers (14 percent) are given for ACSC (available at <www.au.af.mil/au/cf/au_catalog_2012-13/AU-10_Catalog_2012-2013.pdf>). Naval War College percentages would decrease by about 50 percent if primarily staff positions were eliminated. Additionally, the numbers for both the Navy senior Service school and its command and staff college are identical as the same faculty members teach in both.

In the corporate world, research is increasingly showing that companies with a critical mass of women executives financially outperform their peers. This has led to a movement across the business world to get more women on corporate boards, in executive positions, and in employee ranks in general. Numerous studies have shown that organizations must be comprised of at least one-third women in leadership roles, a *critical mass*, to benefit from the diverse qualities women bring to organizations.[5] More than 40 years ago, Harvard researcher Rosabeth Moss Kanter argued that once a critical mass of women was reached within an organization, "people would stop seeing them as women and start evaluating their work as managers. In short, they would be regarded equally."[6]

While diverse perspectives seem recognized as essential for complex decisionmaking and improving the performance of organizations, and while diverse thinking has the support of senior military leadership, it is sorely lacking in professional military education (PME) institutions where higher learning actually takes place. Minority faculty representation is below 10 percent at both mid- and senior-grade Service schools.

These numbers might be compared to civilian academic institutions where representation of women, for example, ranges between 30 and 40 percent of full-time faculty positions. Minority percentages among the student population at these institutions range between 7.3 and 15 percent, decreasing at senior Service schools where fewer women meet the rank qualifications.[7] At the U.S. Army War College, for example, there were 28 female students out of 385 in the 2013–2014 class, or 7.3 percent. By contrast there were 77 international officers, or 20 percent of the class. Therefore, data show that PME institutions fall far short of meeting this leadership critical mass benchmark for both students and faculty.

The comparative lack of diversity—the ubiquitous "sea of sameness"—among and between faculty and students results in a learning environment not aligned with the intent of senior leadership.[8] More importantly, it falls short in providing students with the education they will need for future decisionmaking in complex environments.

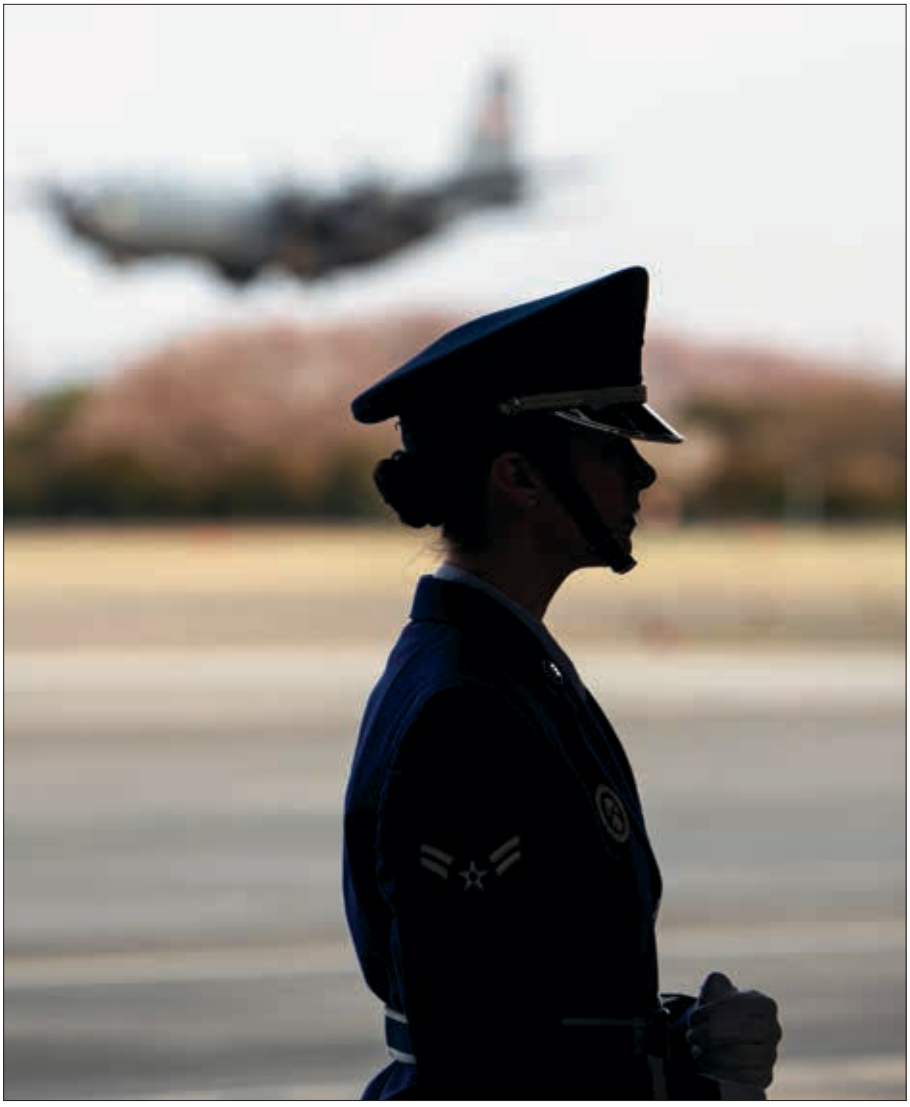
U.S. military members at all ranks are increasingly required to work with civilians, civilian institutions, and civilian communities, from villagers in Afghanistan, to aid workers in Africa, to contractors and the interagency community in Washington, DC. While military personnel are fully trained for their operational careers, they may lack education for "contextual intelligence," which Harvard Professor Joseph Nye argues is essential for effective leadership in complex environments. This is at least partly due to insufficient exposure to differing perspectives on everything from worldview to work habits. The reasons and consequences for this gap in education are important concerns that will affect future leadership and U.S. national security.

Our aim is to begin to unpack some of the ramifications of and reasons behind the sea of sameness in PME. While lack of diversity between faculty and students is a problem, this article focuses primarily but not exclusively on the faculty and on sex simply as a starting point for discussion. Hiring and retention issues regarding race and ethnicity are analogous, however. Why there are not more minority faculty is a function of structural issues, hiring practices, and work environment.

The Imperative for Diversity

The value added by women to group problem-solving has been documented in multiple studies, including a 2010 survey coauthored by MIT, Carnegie Mellon University, and Union College.[9] The importance of an accepting work environment both to the performance of minorities and consequently to the benefits of diverse perspectives in learning environments has been considered as well.[10] Therefore, if diversity of thought and perspective is valued, as General Dempsey states it must be, it is incumbent on PME administrators to ensure that a learning environment that includes diverse perspectives is created and maintained.

With a faculty comprised largely of white males over 40 (many closer to 60), including a significant portion of men who retired from the military directly to the civilian faculty, new blood is often lacking and an echo chamber of perspectives is created. As one Naval War College (NWC) graduate put it, "The NWC has



Airman 1st Class waits for moment to present Colors at Yokota Air Base, Japan (U.S. Air Force/ Osakabe Yasuo)

fallen into the 'old boys club' of keeping tenured instructors well beyond their ability to contribute with any relevancy to the service member of today's military."[11] While the Naval War College does not have a tenure policy, it is correct that longevity is the rule rather than the exception, and this becomes especially problematic when someone is hired for his or her operational experience, which tends to have a short half-life.

Another NWC graduate comment raises the issue of perspectives and the signaling that occurs from lack of minority professors on staff:

I think there is value in diversity. There were not many minority professors on the staff at NWC. I think this is a problem. This is a problem not simply because of representation, but because of perspective. There also needs to be a concerted effort to recruit more minorities as students as well. The importance of diversity among the staff is important for the development of junior officers. If we teach that diversity is important but do not practice it within our senior ranks or in a faculty, then it is not important!

Similarly, a female Army War College student stated that she was surprised at the small number of female civilian faculty given the large number of civilian faculty overall. She added, "This representation sends the message that [women] do not have the required experience or expertise to teach—they make great librarians." The student noted too that although a large number of class-wide lectures had already occurred, only two women were among the presenters, both from outside the institution:

This gives me the impression that sexism exists and we "The Army" still have a long way to go. Change begins at the top and the War College is the pinnacle of the Army's professional military education system, which is definitely not leading the way and sending the wrong message to the next generation of Army leaders and the Army at large.[12]

Lack of diversity has other downsides as well. West Point economics professor Terry Babcock-Lumish drew analogies between teaching at West Point and Hogwarts in a 2013 *New York Times* editorial. Citing the 1993 Defense Department report "Blend of Excellence" calling for the integration of civilian academics into PME, she discusses how cadets identifying individuals by displayed tribal markings such as rank, awards, or units on uniforms can create an oversimplified sense of confidence about what military cadets and consequently officers "know" about individuals—military and civilian. Cadets cared about what officers thought of them for good reason, making civilians in the company of officers "invisible." This inculcated a disregard for civilian input, she posits, which then gets extended into other situations:

When I was studying overseas in the midst of conflicts in Afghanistan and Iraq, dinner party discussions inevitably turned to United States foreign policy. So often civilians, American and non-[Americans], *posed questions to military guests. Rare was the occasion when service members queried civilians, as if by having once been a civilian, all was immediately understood.*[13]

The argument is often made that the military is no longer sequestered on military bases but largely lives out in the civilian population (as least in

the continental United States) and is therefore integrated into civil society. Yet studies repeatedly show significant differences. The military has its own universal medical system, grocery stores, and housing arrangements. More important, their operational jobs are largely within military confines, limiting work situations so different perspectives are rarely encountered.

But not everyone sees value in diversity. When the Pentagon's Chief Personnel and Readiness Officer Jessica Wright spoke in October 2013 about diversity and inclusion as being critical to mission success, her remarks were printed on the *National Review Online* Web site and drew 1,055 comments. Although there were a few attempts to point out that diversity brings valuable perspectives to decisionmaking, they were overwhelmingly drowned out by ad hominem attacks and just plain prejudice and ignorance.[14]

Faculty Recruitment and Hiring

George Reed recently published an article in this journal about faculty management challenges at a war college.[15] Dr. Reed, a retired Army colonel and Army War College instructor, and currently an associate dean at the University of San Diego, writes with substantial credibility about the mixed cultural environment of a war college. Having served as an officer in the military and then transitioning to a career in academia, he recognizes each as a profession with cultural expectations and norms and as deserving professional respect. After reviewing the multiple issues challenging PME, Reed chose to focus on faculty talent management. His rationale is important:

It is appropriate to focus on the concept of academic talent management because of the centrality of the quality of the faculty to the effectiveness of any educational institution. This concept seems to be lost on some administrators in military organizations.[16]

He examined seven ways that PME is disadvantaged in the marketplace for academic talent. A corollary but unaddressed aspect of Reed's important and accurate consideration of recruitment and retention issues is whom PME institutions tend to recruit.

Regarding sex, the administrative rationale often given for why there are so few female teaching faculty is that it is a "structural" issue. PME faculty positions are argued to require academic "generalists" rather than "specialists," with women purportedly tending toward specializations. Consequently, it is reasoned, few qualified women applied for or were assigned teaching positions. In reality few male applicants are generalists either, but they expand their expertise on the job. However, it certainly is the case that the number of female teaching faculty applicants has been lower than men. And even when qualified women do apply, there are still multiple hurdles to overcome.

The "best athlete" approach to hiring is often used in both the public and private sectors. In PME, best athlete candidates are considered to be those possessing a broad range of educational attributes and professional experience in the military or the security field. Far fewer minority candidates are statistically likely to possess this combination of attributes, thereby potentially disadvantaging or eliminating many otherwise highly qualified individuals. Pentland suggests an alternative to the best athlete hiring approach:

The most consistently creative and insightful people are explorers. They spend an enormous amount of time seeking out new people and different ideas, without necessarily trying very hard to find the "best" people or the "best" ideas. Instead they seek out people with different views and different ideas.[17]

"Different," however, does not appear to be a quality actively sought by PME institutions.

There are often even fewer female Active-duty faculty members, and fewer female retired military officers who are subsequently hired as civilian professors. Occasionally, a female officer will be assigned to a department teaching history, economics, foreign policy, international relations, leadership, or some similar field. She will face all the same handicaps as male officers in similar billets—either not being familiar with the subject matter or not having teaching experience—and potentially a sex bias as well. Female Active-duty officers have recently been assigned to departments teaching in traditionally all-male departments because the "sea of sameness" was so stark. When hiring civilians for those billets, however, the traditional profile is that of a postcommand O-6 with operational experience, a profile less likely to fit many women. Whether there are other equally valuable professional profiles in areas populated by more women seems rarely considered.

Fostering a Climate of Professional Satisfaction

At the individual level in environments where diversity is low, the perception is that diversity is not valued, so subtle mistreatments are overlooked or tolerated. Female faculty members report that their perceived marginalization contributes to a climate where they must fight for respect even from their students, and their academic contributions are undervalued. That kind of a climate affects health and performance.[18]

Research indicates that women employed in institutions lacking the organizational characteristics and individual leadership behaviors to create environments where diversity is valued become frustrated because they might not reach their full potential.[19] Those who do not see other women being promoted to senior leadership positions not only lack mentors and advocates for their own promotion but also come to believe that promotion is not possible. These attitudes harden over time. The result is often the decision to seek employment elsewhere, further thinning the ranks of this underrepresented minority. Institutions without a record of appointing women to faculty posts in significant numbers or seldom promoting those few who do make it into the ranks make

it more difficult to attract high quality faculty.

Having the importance of diversity *practiced* by faculty and within the senior ranks is important. So too is evidencing it within those ranks. For example, the Army War College has not had a woman (civilian or military) serve as commandant, provost, dean, department chair, or in any director-level position. Having a woman in a PME leadership position, however, does not in and of itself ensure either a critical mass of minority faculty or an environment conducive to creating such, as a female provost currently serves at the Naval War College.

Perhaps an even more damaging aspect of inappropriate attitudes and behavior is the perceived acceptance by administrators. A comment from a Naval War College graduate is illustrative of the attitudes and behavior female faculty and students can face: "I continue to be disgruntled over the failure of the NWC leadership to respond appropriately to the fact that I was pregnant during my course of study, including inappropriate and misogynistic behavior by some professors and their supervisors." That this attitude and behavior occurs is bad—but what is much worse, at least in the view of this student, is that it is tolerated.

For female faculty, this tolerance of inappropriate attitudes and behavior, or seeing only perfunctory efforts to change the status quo, can grate over time and affect retention. The Army War College commandant (equivalent to a college president) gave his direct endorsement this academic year to an informal support group for female faculty and students that had formed over the years, the so-called Women of the College, so a channel exists for serious grievances. However, it has not yet been used for the day-to-day experiences and environmental issues described here.

Some behavior raises such offense among female faculty and students (in the above case, among many males as well) that it cannot be ignored, such as in 2010 when a Naval War College professor gave an in-house presentation at an ethics conference including references to rape that ended up on YouTube, though it was later removed.[20] But the standard administrative approach to dealing with such occurrences is to schedule a mandatory 1-hour all-hands presentation in the college auditorium, often consisting of a canned presentation of little value or given by a well-meaning but irrelevant speaker, that merely serves to anger those innocent of any wrongdoing, and subsequently worsens the environment.

It should be noted that statistically the NWC can certainly boast that it "fosters an atmosphere that respects and supports people of diverse characteristics and backgrounds." In fact, the responses on several graduate surveys place 100 percent of the responses in a 4–7 range on a 7-point scale for that question, though it has dropped to as low as 84 percent. But with a minority student population under 10 percent and typically around 50 graduates responding, it is unlikely that many minority responses were included. Clearly, the vast majority of NWC students are pleased with their overall educational experience.

Work Environment Ramifications: Tokenism

There is considerable commonality between work environment issues minority faculty encounter and those of minority students. In the case of female students, they are often concerned about complaints negatively affecting their grades. Student complaints taken to administrators on a nonattribution basis are largely dismissed.

A comment from an NWC alumna highlights how this situation can affect student grading, illustrated by her own "ever so slightly low class participation grade, which edged me out of graduating with honors . . . [though] I received top marks on the blind-graded exams and papers." An explanation given for why women often get lower class participation grades is that they do not have the command experience that men do, so their class contributions are viewed as less valuable. This is a commonly experienced phenomenon of minority groups and not reflective of actual talents.

An Army War College student commented on the fact that most seminars had only one female student, saying, "to participate, you have to be 'one of the guys' or be willing to be more aggressive and jump into debates where it may be 1 [woman] against several [men] who have different perceptions."[21] A classmate added,

I felt I was the token [woman] *in my seminar and had to defend my position repeatedly, unlike being just another guy in the seminar. If I remained quiet, then I was being a bitch or being hard to deal with. I would have preferred at least one other* [woman] *in the seminar if nothing else just to have added support.*[22]

This is not a problem limited to PME. The Harvard Business School recently tackled the issue. The university leadership was concerned with the disparity between entry-level qualifications and exit-level records of women. Specifically, women whose earlier academic and leadership qualifications were on par with their male classmates were graduating at the bottom of their classes: "Women at Harvard did fine on tests. But they lagged badly in class participation, a highly subjective measure that made up 50 percent of each final mark." The school installed observers in the backs of classrooms to coach students and faculty alike. They found that women were less likely to engage in debate because when they did they were often ignored by professors or talked over by their male classmates.

The observers noted these discrepancies and took corrective action with both faculty and students. At the end of the study it was clear that the interventions had made a difference: "The cruel classroom jokes, along with other forms of intimidation, were far rarer," and women's standings significantly improved. As one professor put it, "sunshine is the best disinfectant." Harvard is in the process of making many changes to ensure that the lessons revealed by this study are imbedded in its institution. Specifically, Harvard is intent on recruiting and training a more diverse faculty, which is already far more diverse, at 30 percent, than any of the PME institutions.[23] This case study

is particularly relevant as senior PME institutions often compare themselves to professional studies programs rather than liberal arts programs.

While female officers arriving at PME institutions with less experience than their male counterparts might have been typical in the past, an increasing number sent by the Services do have significant command experience. Furthermore, if women and minorities are made to feel undervalued, they often contribute less, affecting not only their grades, but also the value they are likely to add to class discussions.

Female students and faculty are reluctant to speak out to higher authorities if the environment is deemed hostile because they are rightly concerned that they could end up being dubbed "the problem." Both groups work hard for acceptance among their male counterparts and do not want to be seen as troublemakers. In the case of female faculty members, the vast majority are on 3-year renewable contracts and concerned that complaints could get them deemed "not collegial" and affect contract renewal.

Technical Sergeant Liesbeth Watson, professional military education instructor at Airey NCO Academy, Tyndall Air Force Base (U.S. Air Force)

Conclusion and Recommendations

A 2013 *Forbes* article considered the boundaries between military leadership and creative leadership, arguing that those boundaries are not as clear-cut as one might imagine. The author suggests six shared priorities for both communities: "To solve the most complex problems, leaders need to engage multiple, diverse perspectives. The assumption here, essential to the successful operation of learning organizations, is that we have the most to learn from those who are least like us."[24] Yet there is little evidence that prioritizing diversity has been accepted within the very organizations charged with educating future military leaders. We have also argued that quality female faculty are unlikely to be recruited and retained if they perceive that they are destined for a marginal existence within their institutions.

If military leadership really wants diversity at academic institutions that exist to prepare officers for the future, it will have to actively assure that more than rhetoric and box-checks are completed at lower levels. Critical mass is a concept widely accepted in the civilian world and must be adopted within the military as well. Acceptance of diversity as a desirable premise, for the variety of perspectives that come as a consequence, cannot be dictated or learned from passive lectures from the stage. It will require a culture change, and culture changes come through leadership and demonstrated commitment to ensuring that the leadership ranks as well as the rank and file increasingly include more women.

Jörg Muth, author of *Command Culture*, which the commandant of the Marine Corps made required reading for all intermediate officers, recently wrote about what he calls a crisis in command, including "mediocre faculty and harsh commanders at military schools."[25] He states, "Those who carry, perpetuate, and disseminate culture in an army are the senior commanders and the fixed military installations, like military academies and schools." Culture is as much or more the issue behind the lack of diversity as structure.

An influential study aimed at correcting the sex gap across industry sectors recommends that one "cannot change the corporate culture and the way things work unless [one has] enough people with the will to change in a position to do it."[26] Change will not occur unless current leaders act to increase the numbers of women in faculty leadership positions and in faculty positions at large. Effective strategies include setting targets and timelines to meet diversity goals and impose consequences for missing the targets.[27] Other accountability tools include ensuring that search committee "long lists" are comprised of at least one woman candidate (30 percent is the recommended number for corporate board searches), with committees having to justify why they fell short of the benchmark.[28] Furthermore, leaders' performance evaluations should be tied to progress toward meeting the benchmarks. PME institutions are subject to multiple oversight bodies, including Congress and Boards of Visitors. These bodies can be effective tools to monitor the rate of progress toward achieving diversity benchmarks.

In the senior leadership course taught at NWC, several case studies of culture change are considered, including Admiral Elmo "Bud" Zumwalt, Jr.,

and businessman Lou Gerstner, who is best known for the culture change he led at IBM, which saved the company. We have our officers study how to propagate culture changes when necessary, but there appears to be resistance to practicing what is taught. This resistance will be abated only by strong internal leadership or when externally dictated. The better option seems to be dealing with it internally. **JFQ**

Notes

[1] Martin E. Dempsey, "Mission Command White Paper," April 3, 2012, available at <www.jcs.mil/Portals/36/Documents/Publications/missioncommandwhitepaper2012.pdf>.

[2] "'Time and Casualties': Gen. Dempsey on Cost of Sequester," *National Public Radio*, February 17, 2013, available at <www.npr.org/2013/02/17/172227744/obamas-top-military-adviser-says-cuts-would-cost-time-and-casualties>.

[3] Ibid.

[4] Alex Pentland, "Why Startups Should Steal Ideas and Hire Weirdos," *Wired*, February 7, 2014, available at <www.wired.com/opinion/2014/02/ideas-flow/>.

[5] "Reaching Critical Mass Is Key," *DiversityInc.com*, available at <www.diversityinc.com/diversity-and-inclusion/reaching-critical-mass-is-key/>.

[6] Rosabeth Moss Kanter, *Men and Women of the Corporation* (New York: Basic Books, 1977).

[7] According to Second Quarter Demographics Report, as of March 31, 2014, obtained from the Navy Personnel Command's Office of Women's Policy (OPNAV N134W), women comprise 11.52 percent of naval officers at the O-5 rank and 12.45 percent at the rank of O-6. Figures from the Army Personnel Management Office, ODCS-G1, accurate as of December 2013, state that women comprise 12.7 percent of Army officers at the O-5 rank and 11.5 percent at the O-6 rank. The "Table of Active Duty Females by Rank/Grade and Service" from the Active Duty Master Personnel File, Military Academies, states 12.3 percent as the overall Defense Department percentage for O-5 and 11.7 percent for O-6.

[8] Joan Johnson-Freese, "Some Thoughts on the Need for Greater Diversity in Professional Military Education," *The Best Defense*, December 3, 2013, available at <http://ricks.foreignpolicy.com/posts/2013/12/03/some_thoughts_on_the_need_for_greater_diversity_in_professional_military_education>.

[9] "Collective Intelligence, Number of Women in Group Linked to Effectiveness in Solving Difficult Problems," *Science Daily*, October 2, 2010, available at <www.sciencedaily.com/releases/2010/09/100930143339.htm>.

[10] See, for example, the work of Harvard Business School professor and organizational behavior specialist Robin J. Ely, available at <www.hbs.edu/faculty/Pages/profile.aspx?facId=7287>.

[11] Naval War College quotations are from graduate surveys.

[12] Current U.S. Army War College student in correspondence with authors, February 2014.

[13] Terry Babcock-Lumish, "The Magic of West Point," *The New York Times*, December 4, 2013.

[14] Sterling Beard, "Pentagon's Chief Personnel and Readiness Officer: Diversity and Inclusion Critical to Mission Success," *The National Review Online*, October 29, 2013, available at <www.nationalreview.com/corner/362539/pentagons-chief-personnel-and-readiness-officer-diversity-and-inclusion-critical>.

[15] George E. Reed, "The Pen and the Sword: Faculty Management Challenges in the Mixed Cultural Environment of a War College," *Joint Force Quarterly* (1st Quarter 2014), 14–20.

[16] Ibid., 16.

[17] Pentland.

[18] For information on the effect of ostracism on health, see Kipling D. Williams, "Ostracism," *Annual Review of Psychology* 58, nos. 425–452 (January 2007), available at <www.annualreviews.org/doi/pdf/10.1146/annurev.psych.58.110405.085641>.

[19] *Creating a Positive Cycle: Critical Steps to Achieving Gender Parity in Australia* (Boston: Bain & Company, 2013), available at <www.bain.com/Images/BAIN%20REPORT%20Creating%20a%20positive%20cycle.pdf>.

[20] Military Rape Crisis Center, "U.S. Naval War College Advocating RAPE?" available at <http://militaryrapecrisiscenter.org/2010/05/23/us-naval-war-college-advocating-rape/>.

[21] Current Army War College student in correspondence with the authors, February 2014.

[22] Ibid.

[23] Jodi Kanter, "Harvard Business School Case Study: Gender Equity," *The New York Times*, September 7, 2013, available at <www.nytimes.com/2013/09/08/education/harvard-case-study-gender-equity.html?pagewanted=all&_r=1&>.

[24] David Slocum, "Six Creative Leadership Lessons from the Military in an Era of VUCA and COIN," *Forbes.com*, October 8, 2013, available at <www.forbes.com/sites/berlinschoolofcreativeleadership/2013/10/08/six-creative-leadership-lessons-from-the-military-in-an-era-of-vuca-and-coin/2/>.

[25] Jörg Muth, "A Crisis in Command and the Roots of the Problem," *The Bridge*, available at <https://medium.com/the-bridge/80dfcfd7fd49>.

[26] *The White House Project: Benchmarking Women's Leadership* (New York: The White House Project, 2012), available at <www.ncrw.org/sites/ncrw.org/files/benchmark_wom_leadership.pdf>.

[27] Ibid.

[28] Joann S. Lublin and Theo Francis, "U.S. Boards Lag Behind in Appointing Women," *The Wall Street Journal*, February 5, 2014, available at <http://online.wsj.com/news/articles/SB10001424052702304851104579361313785708236>.

Marine Corps second lieutenant patrols bazaar in Khan Neshin, Afghanistan (U.S. Marine Corps/Michael Cifuentes)

Joint PME

Closing the Gap for Junior Officers

By Rhonda Keister, Robert Slanger, Matthew Bain, and David Pavlik

General Martin E. Dempsey, Chairman of the Joint Chiefs of Staff (CJCS), has called on the U.S. military to integrate the lessons of the past 10 years of war into joint education objectives and institutions in order to develop "agile and adaptive leaders with the requisite values, strategic vision, and critical thinking skills necessary to keep pace with the changing strategic environment."[1] Furthermore, the capstone concept of Globally Integrated Operations states that the military will depend on distributed joint employment at the tactical level to have effects at the operational and strategic levels.[2] To achieve this vision, joint education must start as early as possible, so junior officers begin their careers armed with the foundational knowledge they need to succeed as part of the joint force. This presents a compelling need for these young leaders to have a basic understanding of the synergistic effects of joint operations. The truth is, junior officers have been functioning in a joint environment across the globe daily, but unfortunately, our educational system has not kept up with this reality. Emphasis at the junior level must encompass more than broad overarching topics on the unique capabilities of each Service.

Lieutenant Colonel Rhonda Keister, USA, is Strategic Operations C4 Branch Chief in U.S. Southern Command J635. Major Robert Slanger, USAF, is a Southeast Asia Policy Officer in U.S. Special Operations Command, Pacific. Major Matthew Bain, USMC, is a Logistics Strategist in the U.S. Central Command Directorate of Logistics and Engineering. Lieutenant Commander David Pavlik, USN, is a Joint Action Officer in U.S. Special Operations Command, Force Management Directorate.

Instead, senior Department of Defense leaders should direct learning outcomes that expose their ensigns and lieutenants to the other Services' tactics and doctrines. There are resource challenges to overcome, of course, and a fiscally constrained environment demands creative and cost-effective ways to inculcate joint thought in the joint force at an earlier stage of career development. Fortunately, the challenge is not as large as it may seem.

There are good reasons to improve joint education and its execution and not to accept the status quo. A core realization of the Goldwater-Nichols Department of Defense Reorganization Act of 1986 was the need for officers to have joint education and experience before achieving general/flag rank. "The Report on Military Education" in 1988 was commissioned by the 101st Congress House Armed Services Committee as a follow-through to Goldwater-Nichols. The members recognized that "Experience is the most basic and the most in-depth education. However, in the complex national security area, no one can directly experience everything he or she needs to know, especially during peacetime. The panel recognizes that formal education tours essentially are nodes in what should be career-long educational development."[3]

Currently, junior officers have been working in de facto "joint tours" at the tactical level during operations and exercises without the benefit of the formal professional military education (PME) recognized by the committee. The CJCS provides joint PME guidance to the Services through various policy documents, including the December 2011 Officer Professional Military Education Policy (OPMEP)[4] and the recent CJCS white paper on joint education.[5] Senior leaders have recognized the need for earlier education but have not provided implementation guidance. Most recently, the CJCS 2013 "Review of Joint Education" noted:

The lifelong learning proposal includes the idea that joint learning must occur earlier for both enlisted personnel and officers. However, most of joint education has focused at the intermediate career level and up. The early years of both officer and enlisted education and training have been devoted to becoming proficient in Service and military specialties. A problem becomes obvious when we examine how to provide more joint education early in military careers: all Service courses are already overflowing with Service-specific learning objectives; thus, more joint education will have to come at the expense of Service topics, which could reduce Service and branch competencies. This is a delicate balance and requires thoughtful consideration as the schools determine how to incorporate the DLAs [Desired Leader Attributes] *at all levels.*[6]

Fortunately, it is not a given that adding joint topics must come at the expense of Service topics. A solution is to enhance Service specialty training at the junior officer level by adding specific, appropriate, and targeted joint education corresponding to an officer's specialty training. This approach assumes that young officers are most prone to absorb joint concepts if they directly relate to their own particular Service skills or specialties.[7] Tying only those joint employment concepts that relate to the specific Service course into the curriculum will provide just enough "jointness" both to prepare officers to employ joint effects tactically and to further improve the ability to think critically about joint concepts.

The experiences of the past 12 years of war bring to light the reality that junior officers must routinely resolve joint tactical problems with little or no formal education in either joint or other Service tactics, techniques, and procedures (TTPs). Take the function of communications, for example. No Service exposes their junior communications and signals officers to the unique methods and views of the other Services with regard to communication employment as part of a Service skills course. This is a key point because a desired endstate is establishment of officers capable of effectively working through interoperability challenges.[8] The idea of deliberate exposure to common skills is not simply pedagogy for its own sake. Imagine a young Army captain overseeing the network infrastructure at a forward operating base. He is unexpectedly required to integrate network capabilities with an Air Force lieutenant when neither has had early joint education. Only after a painfully slow period of developing the necessary shared vocabulary and breaking down Service prejudices are these junior officers finally able to focus on the task at hand.

In today's pace of war, any unnecessary tactical delay can be extremely costly to the military effort. While our individual Service branches cannot, and should not, abdicate their unique roles and doctrine, they must arm the "doers" with the basics of a joint foundation sufficient for them to function effectively in today's environment.

Currently the system requires little to no early joint education. Each Service implements joint education throughout an officer's career in accordance with various CJCS and legislated guiding policies; however, officers receive the preponderance of joint education at the O-4 to O-6 grades and beyond. Additionally, the system expends most of its efforts educating officers serving on joint and combatant command staffs, not those executing in the field. It assumes that field-grade and mid-grade officers have acquired enough ad hoc experience working with other Services to overcome the friction inherent in planning at the joint operational level. This assumption places the risk in the hands of the joint commander, an assumption more often than not based on a false premise. Adding earlier education while preserving current JPME courses will mitigate this risk.

There are some limited courses available to young officers that specifically teach joint employment by skill area. The Joint Engineering Operations Course and the Joint C4I Staff and Operations course both provide a joint curriculum for military engineers and communications specialists, respectively. The Defense Acquisition University offers classes to Servicemembers working in contracting and acquisition. There are several more courses like these, demonstrating that senior military leaders recognize the importance of formal education by joint function. The problem is that slots are

limited, so course designers expect some level of practical experience preceding attendance. Moreover, courses generally take more than a week, requiring commanders to prioritize waning travel funds. To understand where early joint education fits best, a brief review of the current junior officer education system is necessary.

Lack of Joint PME

Each Service has variations in training format, timing, and emphasis. Two patterns emerge. The first is the expectation that officers quickly develop expertise in their specific skill areas, tactics, and doctrinal employment. The goal of entry level and initial specialty skill officer training is to produce graduates ready to apply what they have learned as apprentices and quickly become practitioners. The second pattern is that each Service lacks a formal joint education program for its junior officers. It is almost as if each Service seeks only to meet the letter of the legislated joint education guidance rather than the spirit. Sufficient joint PME remains nonexistent for the O-1 through O-3 grades.

Each Service has similar educational models. The Marine Corps PME framework includes courses for all officers at the lieutenant, captain, and field-grade levels. All newly commissioned officers attend the Basic School to learn infantry skills before attending Military Occupational Specialty (MOS) school. Marine lieutenants are not required to complete any formal PME. Marine Corps Order 1553.4B, "Professional Military Education," states, "Marines in the grades of WO, CWO, O-1, and O-2 do not have formal PME responsibilities aside from professional self-study as per the Marine Corps Professional Reading Program. Headquarters, USMC expects Marines in these grades to focus on developing into proficient practitioners within their occupational fields."[9] The Army model is similar to the Marine Corps model. All newly commissioned officers attend the Basic Officer Leadership Course to learn fundamental infantry skills as a precursor to specific MOS schooling. The Captain's Career Course is at the 4- to 5-year mark, but there is little if any joint subject matter.[10] The Air Force no longer requires a basic entry level PME course for newly commissioned officers. These officers enter skill-specific courses necessary for their Air Force Specialty Codes. Squadron Officer School is the first level of commissioned PME for Air Force officers. It is for midlevel captains, and the curriculum is not joint.[11] New Navy accessions attend courses based on job assignment but do not have a specific PME course until the O-4 level.

Navy lieutenant (junior grade) describes navigation system aboard USS *Arleigh Burke* (U.S. Navy/ Shelby Wilfong)

The Services invest tremendous amounts of time and money in developing young officers into capable practitioners, yet they spend precious little time on formal joint instruction during basic officer courses and specialty training. In combat skills training, one will generally find some level of joint employment instruction, usually related to coordination of joint fires or other areas in which TTPs are standardized; however, there is little comparison of Service doctrines or instruction on planning the joint employment of fires. Service doctrine comparison and exposure to joint planning are two areas in which a small investment in curriculum will provide a large return in terms of human capital.

The benefits of providing only a small amount of joint classroom instruction are tremendous. We want young officers to trust doctrine and be able to question it when it needs to be updated. A truly adaptive force is composed of members at all ranks who have sufficient knowledge to avoid "one solution only" thinking. Operational planning and execution have both bottom-up and top-down dimensions. Operational planners on joint staffs develop synergy from the top down by linking multi-Service capabilities through tasking subordinate Service and functional components. Tactical planners and operators develop synergy from the bottom up when smaller units recognize joint solutions, generating a demand signal to the operational headquarters for joint support. The current joint PME structure facilitates the top-down aspect by preparing officers to serve on a joint staff at the operational level of war through a common curriculum regardless of specialty. If we truly want to maximize innovation, the system must also address the gap in junior officers' understanding of joint capabilities in specific occupational fields. Only then will the bottom-up aspect of joint planning and execution mature. Coupling top-down joint planning with bottom-up plan refinement and execution will better enable the synergy sought from joint warfare.

Marine lieutenant discusses movement under fire during exercise Iron Fist at Camp Pendleton, California (U.S. Marine Corps/Danny L. Shaffer)

An early education requirement must include all officers. Senior officers command joint employment, and field-grade and mid-grade officers plan campaigns, but it is junior officers who have to refine and execute jointly. This has been especially true of the recent U.S. conflicts and humanitarian assistance operations; however, the joint PME system has not set them up for success when working with other Services. Precommissioning programs provide only broad-brush exposure to strategic-level Service capabilities. Furthermore, officers do not graduate from specialty schools with the basics of a common vocabulary necessary to conduct effective and efficient joint operations. The reality in today's joint employment is that young officers from different Services must frequently waste time establishing common references without the benefit of joint education. In most recent cases, young officers have succeeded at an acceptable level due to hard work and ingenuity. The concern is that they may be victims of their own success, as seen in the reluctance to expend additional resources to arm them with the background needed to move from "acceptable" to "truly effective" in the joint arena.

Early Joint Education

There is sound educational theory to draw on in developing effective implementation models. It is reasonable to assume that the mind of a junior officer is open regarding joint employment, hence the importance of getting the initial exposure correct. Instruction in joint doctrine and TTPs will increase critical thought regarding one's own Service doctrine earlier in a career. In any effective education program, one must set the foundation of knowledge properly. Benjamin Bloom's educational taxonomy posits several levels of subject cognition. Knowledge and comprehension come before the more advanced cognitive functions of application, analysis, synthesis, and evaluation.[12] According to the taxonomy, "the knowledge level is operationally defined as information retrieval."[13] In essence, knowledge is the ability to recall ideas, facts, and categories, among other things, about a particular subject. It is the baseline requirement for increased cognition. The additional curriculum outcomes should only require the knowledge and comprehension level. If these officers learn the basics of joint employment, they will amaze commanders at all levels with the creative solutions they find.

Another overlooked advantage in establishing early joint education is critical thought about one's own Service. A training program that incorporates other Services' doctrines as a short introduction will help junior officers better understand their own Service doctrines. The juxtaposition of the different approaches to similar problems will force them to critically analyze what their own Services teach. By comparing Service approaches, young officers will develop a foundation for further differentiating, assessing, and organizing shared knowledge, giving them the necessary skills for evaluating information.[14] Take a notional Army signals officer. If he has had exposure

to Navy and Air Force communications systems during early training and education, he will face far less friction if he has to plan to set up a joint C4I system. If he has not had that prior exposure, the likelihood of severe mission impact increases, especially under time-compressed planning situations. The addition of limited joint education will sow the seeds in junior officers, enabling critical thinking about military employment in the future operational environment.

Currently the OPMEP directs that primary PME curriculums be "predominantly Service oriented, primarily addressing the tactical level of war. Service schools that have programs centered on pay grade O-3 officers will foster an understanding of joint warfighting necessary for success at this level."[15] The effectiveness of the primary Service PME courses in achieving this outcome remains in question. More significantly, waiting until O-3 is too late. Demanding earlier implementation of these outcomes capitalizes on the intellectual capacity of today's military accessions. Young officers naturally ask questions, as everything they are learning is new. If an overarching goal of any educational program is to lay a foundation for creative thinking beyond graduation, officers must learn about each Service's approach to tactical problems at the first real opportunity. We want officers who can synthesize new solutions. Synthesis requires understanding related but separate knowledge areas. Evaluation further requires comparison between different aspects of a subject.[16] The current system is so focused on teaching one element to a new officer that it neglects the overlapping elements.

Earlier exposure to a more holistic view of joint operations will create a better prepared group of officers among the field-grade and mid-grade ranks. The purpose of the Joint Officer Development process is to create a pool of Joint Qualified Officers capable of succeeding at the joint operational level. Improving joint education at a younger stage will vastly improve the readiness of officers available to plan at higher levels. The experiences of officers before reaching the intermediate or senior stages of joint education significantly shape their notions of joint planning and employment. A more deliberate and formal exposure at the initial specialty school level will establish a baseline understanding of the *why* each Service employs in a particular manner. This baseline knowledge will empower the motivated junior officer to seek further self-directed learning. When these officers reach field-grade and mid-grade ranks they will have had the benefit of thinking about joint employment within their specialties, which will better prepare them to interact and think at the joint and combatant commander staff levels regarding warfare.

Debunking the Time Argument

It is hard to argue that improved training and education of junior officers is a bad thing. For those trusted with the Nation's defense, no amount of preparation is ever enough. However, opponents may argue that adding more educational requirements to an officer's already hectic early career is not worth the additional money, and even more important, the time it would take. Since it is hard to measure the value in dollars, we will focus on the time requirements.

Creating a military officer is a significant investment in time as it is. There is the prerequisite 4-year college degree coupled with a mountain of screening events to demonstrate leadership potential and moral fortitude. These venues range from Service academies to Reserve Officers' Training Corps (ROTC) units to the many nonstandard pathways to officership from the population of educated civilians and the exceptionally talented enlisted corps. Add to this the entry level and occupational specific training and it gets to be quite dramatic.

Consider a notional Marine's pathway to becoming an officer. Four years of college and summer ROTC events plus 6 months of the Basic School plus 3 months of occupational school training produces a Marine second lieutenant ready for service in the operating forces. This is essentially a 5-year process, 1 year of which counts against this notional officer's obligated Service commitment. For all Services, this process focuses on indoctrination and occupational skill proficiency. Once the lieutenant takes his first real job, he is still essentially an apprentice requiring a great deal of on-the-job training, mentoring, and experience to become a truly effective leader. Once this Marine becomes a first lieutenant, his apprenticeship is largely considered over, but he only has 2 years of obligated service left. Basically, this amounts to some 6 years of education and training for 2 years of journeyman officership. If it takes 2 years of nonresident seminars or a year of resident school to educate a field- or mid-grade officer in joint concepts under the current joint PME I rubric, there is simply no time in this notional lieutenant's career to absorb any more education aside from the on-the-job variety.

What about the more "senior" junior officers, the Army captains and Navy lieutenants? These officers do not have any statutory requirement for truly effective joint education. They may have 5 or 6 years in grade depending on Service promotion policies and are typically considered career officers. Unfortunately, time at this rank is even more constrained though it is more abundant. Aviators typically begin their operational careers at this rank and spend virtually the entire time becoming proficient pilots. For other officers, a combination of Service schools, career milestones, and supporting establishment requirements compete for attention. Picking up with a notional Army captain, for example, within 5 years he must try to spend half a year in a career course, complete an operational assignment as a company commander as part of a 3-year rotation, and spend another 3-year rotation in a supporting billet or possibly attend one of the postgraduate schools for an advanced degree. Finally, this is the point where most officers are expected to become masters of their Service TTPs. There simply is not time for "more," even if it is "better."

The key to debunking this opposing view is to fundamentally change the officer development paradigm without giving up what the Services are already doing well. The fundamental change in the existing training and education venues should be to make existing

Army first lieutenant establishes radio contact during joint operational access exercise at Fort Bragg (U.S. Air Force/Quinton Russ)

events more joint without making them significantly longer or more expensive. This may require a wholesale review of all junior officer training curriculums, but the benefits already articulated outweigh what is largely a one-time cost.

Incorporating Joint Criteria

There are many ways to make this a reality, some more resource intensive than others, but a simple, relatively low-cost approach to improve tactical joint proficiency would be to incorporate joint educational criteria into the Services' specialty schools already in existence. This would not require the creation of an additional joint PME course. It scopes the joint curriculum to what is most relevant to what an officer has just learned—specific tactical skills—thus serving to reinforce course concepts by comparison. Including lessons on other Services' employment would arm young officers with the basics of joint knowledge they will need in their immediate future, not 10 years later. Additionally, it is much more cost efficient to include joint instruction at the specialty school and leverage computer-based technology for continuing education.

A limited amount of joint education at the end of an initial skills course would pay large dividends within the force. Junior officers would be better prepared to execute in the joint environment they find themselves in today. Exposure to three additional perspectives on the same subject strengthens critical thought concerning one's own Service doctrine. Finally, joint doctrine is always evolving, and the next generation of officers must be better prepared to refine joint thought than current and past generations have been.

The first step to this proposal is to identify shared skill areas and further categorize Service specialties. Some possible methods to grouping skills could be to separate them by broad occupational function such as logistics, communications, surface/subsurface combat (land and sea), combat support, fixed-wing aviation, rotary-wing aviation, and administration, or possibly even by Joint Capability Areas. There are likely multiple solutions for developing these groups, but creating them should be as easy as developing a starting point and allowing the Service education establishments to identify specialties that belong to each area. The Joint Staff, in conjunction with the Services, would then need to develop a common educational task list for each common core skill area. An example of the type of question the Joint Staff might ask of the Services during this process is, "What do the Marines want Navy, Air Force, and Army junior officers to know about movement and maneuver or logistics?" The answer might be that the Marines think of the sea as potential maneuver space for land operations, and therefore it would be good for the maneuverists and logisticians of the other Services to be prepared to support Marines from over the beach. The final

result of this top-down review of curriculum requirements would be a list of joint education subjects grouped by specialty or capability area. This would ensure a common knowledge baseline of joint concepts from which to build.

The next step is to determine the scope of joint instruction for each specialty school. It must remain manageable since each Service would then be responsible for incorporating those subjects into the appropriate junior officer education venue. Ideal objectives, all tied to specific skills, might be exposure to common vocabulary, understanding differing Service doctrine, learning the typical employment and support requirements, and gaining familiarization with differing TTPs and joint doctrine. The overall purpose is to give junior officers a starting point for joint tactical employment, not graduate-level expertise. Based on the experience of the Service staff colleges' implementation of joint PME, Service junior officer training and education venues could incorporate the majority of the additional subject matter into existing lessons. This proposal would require an estimated additional 15 to 20 instructor-led contact hours specifically targeting joint subject matter, plus background reading to fully realize the potential benefits of initial joint orientation.

The individual Service specialty schools are the only time and place in which all junior officers are a captive audience to joint instruction. Implementation of this concept must not tread on the Service requirements to train within their legislated roles. The proposed model would give the joint instructor 2 to 3 days added to each course. The CJCS would be responsible for coordinating instructors and curriculum development. Truthfully, it might require the Office of the Secretary of Defense or congressional direction and funding to fully implement, but if earlier joint education is truly important, the relatively low cost for return is worth the effort.

There is an inherent geographic and fiscal challenge in ensuring availability of instructors for the many schools throughout the United States that a successful program must also overcome. Leveraging the Reserve force to create these instructors is cost-effective, and it also solves the geographic challenge. The model already exists on a smaller scale. The Institutional Training Regiments within the Army Reserve provide instructors, cadre, and drill sergeants to both Active and Reserve component institutions such as basic training, ROTC, the Simultaneous Membership Program, and Noncommissioned Officer training academies. A joint oversight body could coordinate Reserve billets associated with the many schools. Individual augmentee instructors would be ideal for continuity and minimal overhead. During the final phases of a course, one instructor from any Service could spend 3 days teaching without taxing the Service with additional lesson requirements.

Another option to save cost and additional manpower is to allow the Service schools to identify a qualified officer from another military department to teach the CJCS-approved block of instruction. For example, most military bases are within a few hours' drive of another Service base and many already have other Service tenant units. Think of it as a kind of instructor exchange program that accomplishes the additional training at little cost while potentially improving inter-Service relationships at the installations involved.

The joint education system can also take advantage of noninstructor-based media as a recurring tool. Considering the current fiscally constrained environment, the military's expanding use of e-learning would provide a suitable avenue for recurring education in joint fundamental concepts. Training could be incorporated into an officer's required yearly general military training curriculum. While certainly not a panacea, limited online self-learning is a low-cost method to keep officers exposed to changes in joint doctrine and TTPs.

In the future, more junior officers are likely to find themselves responsible for tactical planning and execution of joint operations whether in conventional support to special operations or military-to-military engagement for security cooperation events. This proposal is advocating more than the typical "more training is better." Since Goldwater-Nichols, the joint force has evolved from simple deconfliction to true operational synergy evidenced in over a decade of sustained conflict. This synergy starts with commanders and joint planners who have a broad understanding of joint operations as a result of mandated joint education. It is high time for the synergy to enter the tactical realm by educating and training younger officers to understand and seek joint solutions to tactical challenges. **JFQ**

Notes

[1] Martin E. Dempsey, "Joint Education White Paper," July 16, 2012, 3, available at <www.dtic.mil/doctrine/concepts/white_papers/cjcs_wp_education.pdf>.

[2] *Capstone Concept for Joint Operations: Joint Force 2020* (Washington, DC: The Joint Chiefs of Staff, September 10, 2012), 1–4.

[3] House Armed Services Committee, Panel on Military Education, *Professional Military Education*, 100th Cong. (Washington, DC: Government Printing Office, 1989), 14.

[4] Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 1800.01D, "Officer Professional Military Education Policy," The Joint Chiefs of Staff, September 5, 2012.

[5] Dempsey.

[6] Joint Staff J7, "Review of Joint Education 2013," unpublished report, June 2012.

[7] David Cotton, "Essentials of Training Design Part 5: Adult Learning Theories and Design," *Training Journal* (May 2004), 22.

[8] CJCSI 6345.01, "Management of Joint Net-Centric Operations (JNO) Command," The Joint Chiefs of Staff, May 28, 2008, A-2.

[9] Headquarters U.S. Marine Corps, "Marine Corps Order 1553.4B, Professional Military Education," Department of the Navy, January 25, 2008.

[10] U.S. Army Pamphlet 600-3, "Commissioned Officer Development and Career Management," 2010.

[11] Air Force Instruction 36-2301, Change 2, "Developmental Education," AF/A1DL, July 2013.

[12] Robert J. Marzano and John S. Kendall, *The New Taxonomy of Educational Objectives*, 2nd ed. (Thousand Oaks, CA: Corwin Press, 2007), 5.

[13] Ibid.

[14] Lorin W. Anderson et al., *A Taxonomy for Learning Teaching and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives* (New York: Addison Wesley Longman, 2001), 75–81.

[15] CJCSI 1800.01D, A-A-3.

[16] Marzano and Kendall, 7–8.

Cameroon, Gabon, and Republic of Congo sailors receive small-arms qualifications training aboard USS *Simpson* as part of Africa Partnership (U.S. Navy/Felicito Rustique)

Defense Strategic Guidance

Thoughtful Choices and Security Cooperation

By William G. Pierce, Harry A. Tomlin, Robert C. Coon, James E. Gordon, and Michael A. Marra

President Barack Obama's speech at the Pentagon on January 5, 2012, regarding the new Defense Strategic Guidance (DSG) clarified one aspect of the future of the Department of Defense (DOD). The DOD budget will undergo significant reductions in coming years. The obvious question is how the Department can achieve the Nation's security objectives given the coming fiscal restraints. The 2010 National Security Strategy (NSS) builds on the concept of engagement outlined in the 2006 and 2010 Quadrennial Defense Reviews (QDRs) and contains a partial answer:

Our diplomacy and development capabilities must help prevent conflict, spur economic growth, strengthen weak and failing states, lift people out of poverty, combat climate change and epidemic disease, and strengthen institutions of democratic governance.[1]

The NSS asserts that the United States must continue to engage with other nations to achieve U.S. national security objectives. One component

William G. Pierce, Harry A. Tomlin, Robert C. Coon, James E. Gordon, and Michael A. Marra are Professors in the Department of Military Strategy, Planning, and Operations at the U.S. Army War College.

of military engagement is *security cooperation* (SC), which is defined in DOD Directive 5132.03, *DoD Policy and Responsibilities Relating to Security Cooperation*, and in Joint Publication (JP) 1-02, *DOD Dictionary of Military and Associated Terms*. While the definitions are slightly different, the results are the same regardless of which definition one wishes to use. Security cooperation involves U.S. military interactions with foreign security establishments to accomplish three objectives: develop military capabilities, build relationships, and gain peacetime and contingency access.[2]

In the past several years the U.S. Government published a series of national strategic documents and joint doctrine manuals. Now is a good time to assess how well these documents guide SC efforts consistent with the Secretary of Defense's January 2012 DSG, given significant budget cuts to DOD. This article evaluates current guidance and doctrine regarding planning for security cooperation activities, briefly describes the evolution of security cooperation guidance, and proposes a planning methodology to help combatant commanders make thoughtful choices on when and where to conduct SC activities. In addition, it offers considerations and challenges in planning SC engagements.

The January 2012 DSG, *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense*, describes the future role of SC. Although the guidance does not specifically state "security cooperation," it does address two of the three objectives of SC: building capacity and relationships. Under the heading "Primary Missions of the U.S. Armed Forces," one of the missions is to "Provide a Stabilizing Presence." It describes this mission as follows:

U.S. forces will conduct a sustainable pace of presence operations abroad, including rotational deployments and bilateral and multilateral training exercises. These activities reinforce deterrence, help to build the capacity and competence of U.S., allied, and partner forces for internal and external defense, strengthen alliance cohesion, and increase U.S. influence. A reduction in resources will require innovative and creative solutions to maintain our support for allied and partner interoperability and building partner capacity. However, with reduced resources, thoughtful choices will need to be made regarding the location and frequency of these operations. [Emphasis in the original.][3]

For this article, the key phrase in the above paragraph is *thoughtful choices*. How can a combatant commander recommend "thoughtful choices" on where to engage and how often to provide that stabilizing presence? On the first page of JP 5-0, *Joint Operations Planning*, Admiral Mike Mullen, USN (Ret.), states, "This edition . . . reflects the current doctrine for conducting joint, interagency, and multinational planning activities across the full range of military operations."[4] The authors do not agree with this statement as it applies to SC. It is fair to say that while the links between strategic guidance and planning doctrine are stronger than ever, there are few specifics in joint doctrine that will enable a combatant commander to recommend SC engagements to DOD or make thoughtful choices in planning regional SC activities.

As a basis for comparison there is an extensive treatment in JP 5-0 regarding planning for major combat operations. In addition, the Services have a body of knowledge on the specifics of combat operations planning, and many of those who serve on joint planning staffs have employed similar problem-solving processes during their Service assignments (for example, the Army's Military Decision Making Process). However, there is little doctrinal help at any level of command or Service about where and how often the United States should engage with partners.

Strategic Guidance

The 2010 Quadrennial Defense Review contains a section specifically devoted to building partner capacity. After a short introduction on SC activities, the paragraph continues:

In today's complex and interdependent security environment, these dimensions of the U.S. defense strategy [security cooperation] *have never been more important. U.S. forces, therefore, will continue to treat the building of partners' security capacity as an increasingly important mission.*[5]

The 2010 NSS echoes these sentiments. It does not explicitly address security cooperation, but it acknowledges the U.S. role in reaching out to other nations:

Our foundation will support our efforts to engage nations, institutions, and peoples around the world on the basis of mutual interests and mutual respect. Engagement is the active participation of the United States in relationships beyond our borders. It is, quite simply, the opposite of a self-imposed isolation that denies us the ability to shape outcomes.[6]

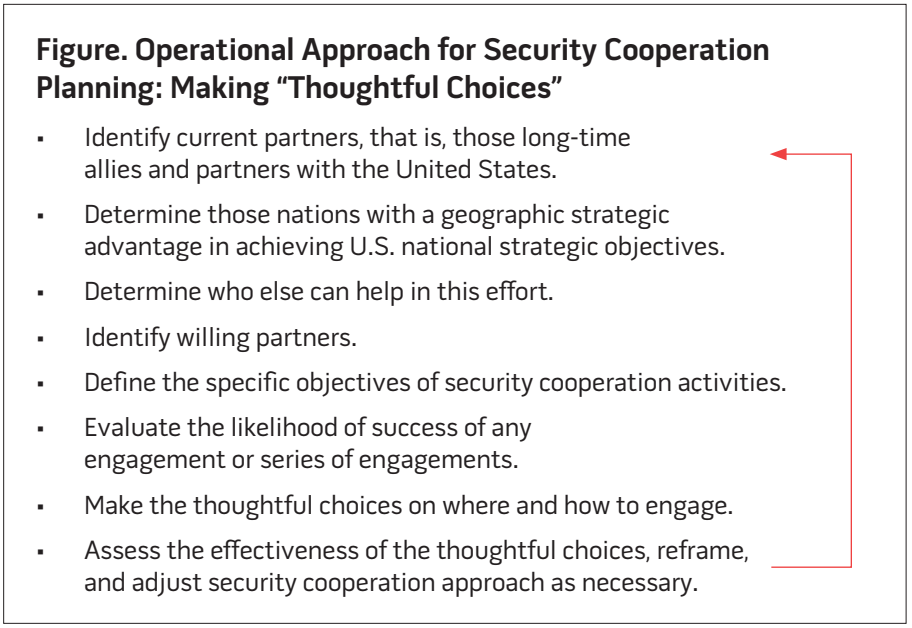
The NSS continues with one type of engagement: "Our military will continue strengthening its capacity to partner with foreign counterparts, train and assist security forces, and pursue military-to-military ties with a broad range of governments."[7]

There is an extensive treatment on SC activities in the 2012 Guidance for Employment of the Force (GEF). Security considerations preclude an in-depth discussion of specific aspects of the GEF regarding security cooperation, but it is clear that the guidance does not provide a methodology on how to plan for SC activities. This is reasonable given that the GEF is policy and not doctrine.

The current JP 3-0, *Operations*, maintains the same theme: "Establishing, maintaining, and enhancing security cooperation among our alliances and partners is important to strengthen the global security framework of the United States and its partners."[8]

Finally, JP 5-0 addresses security cooperation and engagement and describes in detail how to plan joint operations using the joint operation planning process (JOPP). It notes where security cooperation fits in the planning efforts of combatant commands: "The campaign plan is the primary vehicle for designing, organizing, integrating, and executing

Figure. Operational Approach for Security Cooperation Planning: Making "Thoughtful Choices"



security cooperation activities."[9] The publication does not offer any detail on how security cooperation planning could or should be conducted, however.

In summary, the national strategic guidance and joint doctrine are clear. The U.S. military will continue to engage friends' and allies' security forces through security cooperation. These SC activities are articulated in the combatant commander's theater campaign plan (TCP).

History

Theater engagement and theater security cooperation have been part of DOD's lexicon for well over a decade. The Office of the Secretary of Defense (OSD) published documents titled *Security Cooperation Guidance* (SCG) in April 2003 and November 2005. The 2005 SCG provided the combatant commands with SC objectives, ways to conduct SC, and priority countries.[10] Interestingly, the SCGs were not tied to other strategic planning guidance documents produced by the Secretary of Defense (Contingency Planning Guidance) and the Chairman of the Joint Chiefs of Staff (Joint Strategic Capabilities Plan). These strategic guidance documents focused on contingency planning and did not account for or direct either steady-state or SC activities. OSD partially resolved this disconnect in 2008 by linking steady-state activities that included SC with contingency planning guidance in the GEF. The 2010 and 2012 GEF maintained this link between steady-state and contingency planning efforts, but there seems to be more that joint doctrine could offer to help planners in combatant commands plan for SC activities.

A Methodology

The proposed methodology offers a way to develop an operational approach for security cooperation engagements using the framework of operational design as outlined in JP 5-0.[11] One caveat is worth noting. This methodology does not reflect how any of the combatant commands currently plan for SC activities. It is simply a proposal. A prerequisite for applying this methodology is an understanding of the strategic direction as articulated in the combatant command's GEF- and Joint Strategic Capabilities Plan (JSCP)-directed contingency planning requirements, the goals of the Country Teams, and the actual and potential threats within the area of responsibility (AOR)—all of which are the first two steps in operational design—understanding the strategic guidance and the environment.

The first four steps of the proposed methodology continue with the second step of operational design: understanding the environment.

Identify Current Partners. The methodology starts with identifying the nations that have been long-time allies and partners with the United States. It would be an interesting exercise to start this methodology with a blank sheet of paper, but this would not reflect reality. The United States must acknowledge the advanced and sophisticated relationships it has established over the past several decades. While forging new relationships is something the United States will continually strive for (for reasons outlined below), established relationships cannot be ignored. In many cases these allies have proved their reliability as good partners. The question regarding the level of resourcing of SC activities with these allies and partners is determined later in the methodology.

Determine Those Nations with a Geographic Strategic Advantage. In this step the planners determine which allied or friendly nations are positioned geographically to support specific national security objectives. Examples include nations that border nations hostile to the United States and its interests and nations that provide sanctuary to violent extremist organizations and do not have the capacity to deal with the situation. Some of the nations identified in this step will overlap with those determined in the first step.

As part of this step planners should answer three questions that orient on achieving GEF- and JSCP-directed objectives. This focus is consistent with the direction in the DSG regarding force and program development. Specifically, the fifth principle in the DSG states, "[I]t will be necessary to examine how this strategy will influence existing campaign and contingency plans so that more limited resources may be better tuned to their requirements."[12] The third question helps planners identify where DOD resources could be used to support other interagency partners' interests and strategic objectives consistent with current authorities and Federal law.

1. Which nations are in a position to support combatant command

contributions to global campaign plans that affect the AOR? JP 3-0 describes a *global campaign* as "one that requires the accomplishment of military strategic objectives within multiple theaters that extend beyond the AOR of a single [geographic combatant command]."[13] For the global campaign plans, the combatant commands contribute to the success of the plans but will generally not have the ability to achieve the national strategic endstate.

2. Which nations are in a position to support combatant command regional contingency plans? The combatant commander develops plans to "account for the possibility that steady-state activities could fail to prevent aggression, preclude large-scale instability in a key state or region, or mitigate the effects of a major disaster."[14] This analysis should not be restricted to the AOR. There will be situations where a combatant command will need some type of support or access to nations that lie outside the AOR.

3. Which nations are in a position to support other departments of the U.S. executive branch? While DOD and joint doctrine specifically define *Security Cooperation* as the U.S. *military* engaging with foreign *security force elements*, military engagements with other aspects of a foreign nation's society could provide essential support in achieving U.S. interests as articulated in an Integrated Country Strategy (ICS), formerly the Mission Strategic Resource Plan. The ICS outlines U.S. interests and goals and provides combatant command planners engagement opportunities for military forces in support of the Country Team.

Once the combatant commander's planners identify the nations with the potential for contributing, they must reconcile the list with those designated in the Leahy Laws, which prohibit U.S. engagement with nations due to human rights abuses or other factors.[15] From this analysis the planners will develop a list of nations (hereafter referred to as focus nations) that are potential candidates and eligible for SC engagement.

Determine Who Else Can Help. Determine if others are engaging (or are willing to engage) to achieve similar SC objectives in the combatant command's AOR. This analysis should be conducted from two perspectives. The first is to determine if other agencies of the U.S. Government are working with a focus nation. A way to decide that is through the recently constituted Promote Cooperation series of meetings initiated by the combatant command and hosted by the Joint Operational War Plans Division of the Joint Staff J5. These meetings are designed to foster interagency perspectives and contributions to combatant command planning efforts. Representatives from the other executive branch agencies participate in the Promote Cooperation meetings. These participants have discovered that DOD is not necessarily the only U.S. Government entity working to achieve specific national security objectives within a focus nation.[16]

Another way is through the "3-D Planning Methodology" and meetings being held periodically and representing the efforts of "Diplomacy, Development and Defense," which are, respectively, the Department of State, U.S. Agency for International Development, and Department of Defense.[17]

The second part of this analysis is directed at nations with an interest in the focus nation due to interest symmetry with the United States, longstanding relationships (for example, former colonies), or other interests such as potential markets or natural resources. This step is consistent with the DSG notion of a "'Smart Defense' approach to pool, share and specialize capabilities as needed to meet 21st century challenges."[18] Unfortunately, getting others to help do one's national security work is not always the best way to approach a problem. While the interests of the United States and those of another part of the U.S. Government or another nation may be closely aligned, a body of knowledge known as principal-agent (P-A) theory explains why country X (an ally of the United States—the agent) building partner capacity in country Y (a focus nation) may not achieve the desired result.[19]

Another drawback in relying on other nations to achieve some of the combatant commander's SC objectives is the focus of the SC activity. The United States may accrue some benefits in building relationships and gaining access to a focus nation through proxies, but this may be possible only when the United States is acting as a member of an alliance or coalition. There are certainly challenges in working with others, but there are also potentially great benefits in acknowledging their capacity-building efforts. For instance, cooperation in military rotary-wing training is taking place between Colombian helicopter instructors and Mexican army pilots that is focused on combating drug cultivation and smuggling. This is a fortuitous externality of U.S. efforts to build the capacity of Colombia's airpower via "Plan Colombia" during Bogota's 20-year war with the Revolutionary Armed Forces of Colombia.[20] Accounting for these types of activities in SC planning would enable combatant command planners to focus scarce SC resources elsewhere.

Identify Willing Partners. Will a nation identified in the first three steps be willing to support or welcome combatant command SC efforts, and if so, how? As mentioned above, the interests of nations rarely align completely. The planners, with the assistance of the Country Team, could determine the willingness of the nations identified in the first three steps to work with the U.S. military or its allies to achieve some or all of its objectives through its security cooperation activities.

Define the Specific Objectives of SC. The next two steps may be considered "defining the problem," in operational design terminology. Once the planners determine the willing partners, the next part of the analysis addresses the specific objectives of the SC engagements and how the potential partners can support the three priorities outlined in the second step. Does the United States seek to improve military-to-military relationships to influence policy decisions, gain peacetime and contingency access to the country, build capacity for internal defense, or build capacity to deter a neighboring nation from aggressive acts? Defining the specific SC objectives for each focus nation will help planners ultimately determine the ways and means necessary

to achieve the desired effects. As a final check, planners must ensure that the SC objectives specifically relate to and increase the likelihood that the United States and its partners can prevent conflict or, if necessary, execute global and regional contingency plans.

Evaluate the Likelihood of Success. In this step, which is similar to wargaming, planners assess the likelihood of success in working with a focus nation to achieve the specific objectives determined above. As part of this evaluation, the planners must account for other perspectives that may influence U.S. military SC efforts. There are no guarantees that any SC efforts will yield the desired effect, but planners must conduct this assessment.

In addition to the focus nation's Country Team and the combatant commander's intelligence collection and analysis capabilities, other tools are available to assist planners in assessing the likelihood of success. One is the State Department's Interagency Conflict Assessment Framework (ICAF). At the request of a focus nation's U.S. Ambassador, the Bureau of Conflict and Stabilization Operations in the State Department assembles a team of predominantly U.S. Government experts and conducts a workshop in the Washington, DC, area to assess the focus nation. The team then deploys to the focus nation and conducts an assessment of conditions there through an extensive program of interviews with all segments of its society. One outcome of the ICAF assessment is an identification of factors that drive conflict within the nation as well as mitigating factors. While relatively new in the State Department, Army Field Manual 3-07, *Stability Operations*, provides an overview of the ICAF.[21] The results of an ICAF assessment could help planners evaluate the likelihood of success of potential SC engagements.

Two other tools may have utility for planners in assessing the likelihood of success of SC engagements in a focus nation. The first is the United Nations Development Programme Human Development Reports. These annual reports present "the global debate on key development issues, providing new measurement tools, innovative analysis and often controversial policy proposals."[22] The other tool is the Fund for Peace Failed States Index (FSI). The Fund for Peace publishes this index annually, analyzing 178 nations in 12 categories based on "levels of stability and pressures they face."[23] The purpose of the FSI is "to create practical tools and approaches for conflict mitigation that are useful to decision-makers."[24] The FSI database goes back to 2005, and this information could help planners identify trends as potential indicators of success in SC efforts.

Make Thoughtful Choices. In operational design terms, this is the step where the combatant commander articulates the operational approach. With the above information, the commander is in a position to make thoughtful choices on the type, location, and frequency of SC activities while balancing the choices between engaging with countries that could directly support U.S. national security objectives and maintaining relationships with long-time allies and partners. In other words, by making the thoughtful choices mandated by the DSG, the commander must balance operational risks with fiscal realities while remaining mindful of political risks that include "the ability and will of allies and partners to support shared goals."[25]

Once the combatant commander makes thoughtful choices on where and how often to engage in SC activities, detailed planning on SC engagements must be conducted. One task is to determine the means required to execute the choices. The means currently come from a variety of sources including the State Department, OSD, other combatant commands, Defense Threat Reduction Agency, Defense Security Cooperation Agency, and private sector defense contractors, among others. A comprehensive treatment of SC resources and authorities is beyond the scope of this article but is a critical component in planning SC engagements once the focus nations and specific engagement objectives are defined. One good example of how a combatant command accounts for SC resources is the U.S. European Command *Handbook of Theater Security Cooperation Resources.*[26]

Assess the Effectiveness of the Thoughtful Choices. From the ways determined above and the means available, the combatant commander will execute the plan and continue to assess the results and reframe where appropriate. This assessment will help planners define (or redefine) the type and desired frequency of all SC engagements and provide input to revisions of the commander's TCP.

There are a few notes worth mentioning regarding the above methodology. It is described in a linear fashion but is not a linear process. Analysis and conclusions in any step may drive planners to reconsider their analysis from a previous step. This is no different from the caveats outlined in JP 5-0 regarding the JOPP.[27]

The above methodology will require a substantial effort by the combatant commander's planning staff. There are other ways to allocate SC resources. One is to divide the effort and resources evenly between the allied and friendly nations in the AOR. This method may be attractive to U.S. Ambassadors and defense attachés because all parties have access to a portion of the SC resources, and it is relatively simple to articulate and execute. The drawback is obvious: there may be little relationship between directed objectives and the expenditure of SC resources. Furthermore, planners should consider a number of factors not mentioned in joint doctrine during SC planning.

Planning Considerations

Does the focus nation's view of civil-military relationships matter in SC planning? The authors believe it does. Of the three objectives of SC, only capacity-building is relatively straightforward and may be unaffected by the relationship between the focus nation's government and its military. The civil-military relationship in the focus nation may affect SC efforts to develop and strengthen relationships and ensure peacetime and contingency access. If the focus nation's government is dependent on the military to maintain power (or may actually be the military), the influence the military might have on policy decisions could be significant. In this situation, SC activities may yield strong

U.S. Army National Guardsman coordinates with Malian army task force commander and chief of operations during Atlas Accord exercise (U.S. Army/ Shana R. Hutchins)

relationships at the policy level, leading to improved relationships and increased peacetime and contingency access.

Some focus nations may have civil-military relationships similar to that of the United States, where civilian control of the military is the accepted practice. In this situation, SC efforts to build relationships and ensure access through military-to-military engagement may not yield the desired effects simply because the focus nation's military might have little or no voice in policy decisions. Unfortunately, there is no absolute method to determine how effective SC activities are or have been in strengthening relationships and ensuring access. In most cases the United States will never know how successful it was until a crisis arises. However, understanding the military-to-government relationship in the focus nation could provide a sense of how much influence military-to-military contacts will ultimately have on policy decisions in a crisis when the desired SC objectives are predominantly relationships and access.

Developing measures of effectiveness for the relationship and access objectives of SC is problematic. Determining the indirect effects of SC is even more difficult. As an example, assume that U.S. SC efforts in focus nation A are designed to build capacity to deter aggression from neighboring nation B, which is hostile to the United States and nation A and their collective interests. How can one measure the effects of the SC activities executed within country A on country B? Is it possible to determine whether the SC efforts in country A will actually deter country B from taking some action counter to U.S. national security objectives? Expending some effort to assess the indirect effects of SC is laudable given that preventing war is a stated mission for combatant commanders in the Unified Command Plan, but determining the actual effect may not be possible.[28]

Challenges

One area critics of this article may identify is that this is a stovepiped methodology primarily restricted to DOD efforts to shape the environment in support of campaign and contingency plans. However, *security cooperation* in DOD policy and joint doctrine is currently defined as U.S. military-to-security force engagements. This is a rather narrow application of one instrument of power, but in their in-progress reviews of plans with the Secretary of Defense, the combatant commanders should explain "how the execution of the [Global and Theater Campaign

Commanding officer of USS *Simpson* greets Nigerian navy commander of Headquarters Naval Training Command during Africa Partnership (U.S. Navy/Felicito Rustique)

Plan] has influenced the ability to deter, prevent or shape the execution of contingency plans."[29]

While DOD policy, strategic planning guidance, and joint doctrine focus on the military instrument of power, there is much the military can do to support other U.S. Government agencies in accomplishing their missions. Joint doctrine acknowledges these contributions. DOD must drive the process to engage other U.S. Departments through the Promote Cooperation and other venues. JP 3-0 summarizes this challenge: "[Joint force commanders] should maintain a working relationship with the chiefs of the U.S. diplomatic missions in their area."[30] With no unity of command, effective action is achieved through unity of effort fostered by common objectives, goals, and senior leader relationships. One factor working against unity of effort is the different perspectives of a geographic combatant commander and an Ambassador. The focus of a geographic combatant commander, unlike an Ambassador, is regional. The geographic combatant commands have developed procedures to foster these relationships. Based on discussions with several combatant command planners, SC efforts are coordinated at least annually with the Country Teams and the Service components.

Another consideration is the source of SC resources. The majority of each Service's budget is dedicated to training and readiness. To a large extent this determines which countries receive what resources and what engagement. Another aspect of resources is the magnitude of funds spent on foreign military sales. This also drives engagement and steers the Services directly at nations with money to spend on advanced weapons systems. The Services have much larger planning staffs for SC activities than those at the combatant command level, and they take Service equity into consideration. In addition, the Services execute SC activities for the most part.[31]

In contemplating thoughtful choices, planners must also consider the effects of planning and executing operations on SC efforts because of the potential for unintended consequences. As an example, SC efforts could result in building the focus nation's security capacity faster or out of proportion with other key institutions of the nation. Another potential drawback is that SC could create an economically unsustainable security apparatus that could have ruinous effects on a focus nation's fiscal solvency.

Finally, the biggest challenge for senior leaders in DOD and commanders who have to make those thoughtful choices is having the authority and willingness to say "no." The 2012 DSG will drive DOD and the combatant commands to take a more discriminating look at how and where the United States spends its defense dollars. This is not to suggest that Washington should abandon its core partners. Few could effectively argue against efforts to sustain long-time friendships or develop new relationships to ensure access or build the capacity of other militaries. However, the new criterion should not be whether any SC engagement is good. Thoughtful choices should find some middle ground where the Nation maintains its relationships with long-time allies and engages with other governments to enhance the prospects of success in directed global or regional planning efforts. Saying no or reducing the level of engagement with a friend or ally will certainly be uncomfortable and may be politically impossible, but in the near term it appears to be inevitable.

Over the past decade the combatant commands have been the beneficiaries of a number of revolutionary processes instituted by the Department of Defense. Some of these include the consolidation of strategic guidance documents in the GEF, Secretary of Defense In-Progress Reviews of campaign and contingency plans, and the requirement for geographic combatant commands to develop campaign plans for steady-state activities within each theater. Strategic guidance and joint doctrine will continue to evolve to enable implementation of the 2012 DSG, but there are still voids that will inhibit coherent global or theater campaign planning. As a continuation of the effort to link military planning activities, this article proposes a methodology to help planners at all levels make thoughtful and, maybe more accurately, tough choices regarding SC activities. While not the definitive solution to the Nation's engagement challenges, it should generate a dialogue in DOD, the Embassies, and the combatant commands on ways to focus SC resources to achieve national security objectives in this era of austerity. **JFQ**

Notes

[1] *National Security Strategy* (Washington, DC: The White House, May 2010), 11.

[2] One definition is from Department of Defense (DOD) Directive 5132.03, *DOD Policy and Responsibilities Relating to Security Cooperation*, October 24, 2008, 11: "Activities undertaken by the Department of Defense to encourage and enable international partners to work with the United States to achieve strategic objectives. It includes all DOD interactions with foreign defense and security establishments, including all DOD-administered security assistance programs, that: build defense and security relationships that promote specific U.S. security interests, including all international armaments cooperation activities and security assistance activities; develop allied and friendly military capabilities for self-defense and multinational operations; and provide U.S. forces with peacetime and contingency access to host nations." Another definition is from Joint Publication (JP) 1-02, *DOD Dictionary of Military and Associated Terms* (Washington, DC: The Joint Staff, November 8, 2010, as amended through February 15, 2013), 257: "All Department of Defense interactions with foreign defense establishments to build defense relationships that promote specific U.S. security interests, develop allied and friendly military capabilities for self-defense and multinational operations, and provide U.S. forces with peacetime and contingency access to a host nation."

[3] *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense* (Washington, DC: DOD, January 5, 2012), 5–6.

[4] JP 5-0, *Joint Operations Planning* (Washington, DC: The Joint Staff, August 2011), ii.

[5] *Quadrennial Defense Review Report* (QDR) (Washington, DC: DOD, February 2010), 26.

[6] *National Security Strategy*, 11.

[7] Ibid., 11.

[8] JP 3-0, *Joint Operations* (Washington, DC: The Joint Staff, August 2011), I-3.

[9] JP 5-0, II-23.

[10] *Security Cooperation Guidance* (Washington, DC: DOD, November 2005).

[11] JP 5-0, III-5.

[12] *Sustaining U.S. Global Leadership*, 7.

[13] JP 3-0, V-32.

[14] JP 5-0, II-4.

[15] The Leahy Law is part of the 2001 Foreign Operations Appropriations Act. Section 563 of Public Law 106-429 states, "None of the funds made available by this Act may be provided to any unit of the security forces of a foreign country if the Secretary of State has credible evidence that such unit has committed gross violations of human rights, unless the Secretary determines and reports to the Committees on Appropriations that the government of such country is taking effective measures to bring the responsible members of the security forces unit to justice." There are actually two Leahy Laws. One is attached to the Defense Appropriations and the other to the Foreign Operations Appropriations.

[16] Chairman of the Joint Chiefs of Staff (CJCS) Instruction 3141.01E, *Management and Review of Joint Strategic Capabilities Plan (JSCP)-Tasked Plans* (Washington, DC: The Joint Staff, September 2011), D-1. This instruction describes the goals and processes for Promote Cooperation activities.

[17] *3D Planning Guide: Diplomacy, Development, Defense*; predecisional working draft (Washington, DC: State Department, July 31, 2012).

[18] *Sustaining U.S. Global Leadership*, 3.

[19] For a good discussion of principal-agent theory in a military context, see Daniel Byman, "Friends Like These: Counterinsurgency and the War on Terrorism," *International Security* 31, no. 2 (Fall 2006), available at <www.mitpressjournals.org/doi/pdfplus/10.1162/isec.2006.31.2.79>.

[20] Chris Kraul, "Colombia Assuming Instructor Role for Other Militaries," *Los Angeles Times*, March 6, 2011, available at <http://articles.latimes.com/2011/mar/06/world/la-fg-colombia-mexico-pilots-20110306>.

[21] Reconstruction and Stabilization Policy Coordinating Committee et al., *Interagency Conflict Assessment Framework* (Washington, DC: U.S. Government Working Group, July 2008); Field Manual 3-07, *Stability Operations* (Washington, DC: Headquarters Department of the Army, October 2008), appendix D.

[22] United Nations Development Programme, Human Development Reports, available at <http://hdr.undp.org/en/reports>.

[23] The Fund for Peace, "The Failed States Index 2012," available at <www.fundforpeace.org/global/library/cfsir1210-failedstatesindex2012-06p.pdf>.

[24] Ibid.

[25] QDR, 95. This section of the QDR outlines a Defense Risk Management Framework.

[26] U.S. European Command (USEUCOM) Office of Analysis and Integration, ECJ8-S, *Handbook of Theater Security Cooperation Resources* (Stuttgart, Germany: USEUCOM, February 22, 2011).

[27] JP 5-0, IV-6, figure IV-4, "Mission Analysis Activities," lists the steps in mission analysis. At the bottom of the chart is the caveat, "Steps are not necessarily sequential."

[28] *Unified Command Plan 2011* (Washington, DC: The White House, April 6, 2011).

[29] CJCS Instruction 3141.01E, B-3, B-4.

[30] JP 3-0, V-9.

[31] Paraphrased from Colonel Van R. Sikorsky, currently Chief of Plans of U.S. Army Pacific and formerly Chief of Strategic Plans for U.S. Pacific Command.

1st Theater Sustainment Command officer of Afghan rail advisory team, deputy director of Rail Port 4, and Afghan interpreter discuss existing Rail Port 4 infrastructure on map developed by Transportation Engineering Agency, part of Surface Deployment Distribution Command (U.S. Army/Timothy Lawn)

Strategic Planning
A "How-to" Guide

By C.V. Christianson and George Topic

The process of developing and writing a strategic plan is widely regarded as the most challenging and frustrating task that leaders and managers are called on to execute. It is rare for senior executives, military commanders, and agency directors, and by extension their subordinates and team members, to go long without facing this requirement. It not only calls for focused effort for extended periods but can also be highly stressful.

Despite how often such efforts are undertaken, it is remarkable how little effective guidance and assistance are available to help organizations with strategic plan writing aside from the legions of consultants who are only too happy to offer their support. There are many fine companies and talented people who engage in the business of writing strategic plans and/or facilitating efforts for their clients. There are also clear and often significant limitations to "external" support efforts, which is not to say that these assessments cannot be exceedingly valuable in some cases. What is certain is that an effective strategic plan cannot be developed without the sustained commitment and effort of the leaders of the organization and the cooperation of major stakeholders, both present and future.

This process is so challenging because teams and leaders need to ask and discuss—and answer—many difficult questions. And in some cases these questions are unanswerable. Ironically, answers are not always necessary; a satisfactory payoff on the investment of time and energy can sometimes result merely

Lieutenant General C.V. Christianson, USA (Ret.), is the Director of the Center for Joint and Strategic Logistics at the National Defense University. George Topic serves as the Vice Director of the Center.

from the process itself. Such endeavors are not without risk. Ill-conceived or poorly managed efforts can do great harm and even catastrophic damage.

For those who sit down to start this process, there are not many simple resources available to guide them through what can either be arduous and painful or enlightening and uplifting. The intent of this article is to offer a framework for starting the process of developing a strategic plan and proposing several ideas about strategic planning in general. At the Center for Joint and Strategic Logistics, we are regularly involved in assisting senior leaders and organizations in strategic planning. The concepts and thoughts here are distilled from a wide variety of these efforts over the past several years. We also identify pitfalls we have seen both in processes and products that illustrate some of the challenging aspects of strategic planning. At a minimum, we offer a starting point for those who begin the process by staring disconsolately at a blank sheet or a white board.

Why Bother?

The first question to ask and understand is related to the plan itself: Why are we writing a strategic plan at all? Hopefully, it is not because we are required to have one every X years. If that is the principal reason, whatever is written will likely remain just as unread as its predecessors. More likely, strategic plans are developed because of recognition of significant changes in the external and/or internal environments or under direction from senior leaders. In the latter case, this is presumably a well-reasoned judgment that a new plan is necessary because the leader sees or understands something that might not be obvious to everyone. In any event, it is important for every participant to understand the impetus for the effort. It is also useful to refer back to this question and the answers during the development, writing, and implementation of the plan.

Starting with "Why?"

This seems fundamental, but we have found asking "Why?" to be the most challenging part of the strategic plan developing process. In many and perhaps even most cases, those involved in the process do not really comprehend what strategic plan development means. Smart and well-meaning senior leaders often struggle with identifying the essence of their organization's reason for being—and in many cases, they have had long associations with their organizations. In fact, sometimes it is the length of the association that inhibits leaders' ability to see this essence or in some instances to understand the question.

It would be ideal if there were a well-reasoned, logical, easy-to-follow process guaranteed to produce a slick, pithy phrase that encapsulated the answer to the why question. Sadly there is not. However, participants should recognize that the very process of struggling with this question offers insights that can assist in developing many parts of the plan and that a collective realization is likely to form that approximates an answer even if it cannot fit neatly on a bumper sticker.

Simon Sinek's excellent book *Start with Why* and video clip from a 2009 TED conference offer a useful introduction to how to think about the why question.[1] While there is no "one size fits all" solution, Sinek's approach can be used as an "icebreaker" to help start thinking about the central issues a strategic plan must address. He uses a pattern he calls the golden circle to describe how some leaders and organizations have been able to achieve a disproportionate influence while others have not. He defines three concentric circles. The outside circle is "*what* we do." Sinek postulates that every organization on the planet knows what it does—that is easy to identify. Moving toward the center, the next circle is "*how* we do what we do." This circle is not as obvious as the *what* circle and is often used to describe differentiations from one organization to another. The center circle is "*why* we do what we do." Sinek states that few individuals or organizations can clearly articulate their why—that is, their purpose.

We have distilled Sinek's pattern or framework into the following basic questions around which this portion of the process should generally revolve:

- Why does the organization exist? Why is it there and why should anyone care? This is the *purpose* of the organization.
- What guiding principles do we embrace? This describes how we do what we do by identifying the core beliefs that define organizational culture and behavior.
- What do we do? This describes our mission (this is harder to answer than it might seem) and what essential elements and critical tasks are necessary for success.

If everyone agrees to the answers to these questions, the rest of the process should be relatively straightforward.

Environmental Scan

This step is easy to start but hard to finish. There are forces beyond an organization's control that affect its ability to achieve mission success and how it conducts its work. There are also conditions within an organization's span of control that can help shape where to focus effort and influence how to perform the organization's work. Everyone will have ideas about what the present and future look like as well as impressions of the organization, stakeholders, challenges, risks, and opportunities. Bringing all these impressions together into a collection of focused insights that will facilitate the development of the strategic plan is much tougher. Additionally, it is important to be able to decide how much input is sufficient and to ensure that all voices are given appropriate credence. Those who are not heard at the beginning are unlikely to contribute later.

There are all kinds of different tools, methods, and techniques to help organizations "assess" themselves. Quad charts outlining strengths, weaknesses, opportunities, and threats, gap analysis, and stakeholder surveys/analysis can all be useful—or not. An essential aspect of determining what "tools" are right for an organization is continually aligning with the questions/process above.

In our experience, it is useful to divide an environmental scan into external and internal components. While the scans are obviously related, this separation enables a closer look at specific issues that will affect the development of a plan and its implementation. An external scan should generally focus on the broader equities of stakeholders, exogenous factors that are sometimes difficult to predict, and the longer term goals of organizations. For government organizations, especially within the Department of Defense, budget issues, political factors, and major strategic shifts are examples of the kinds of issues central to an external scan.

Internal scans enable planners to assess factors they are more able to control. Additionally, there are invariably issues associated with internal scans that limit or offer opportunities for significant change in any organization. Sometimes they are as clear and simple as budgetary pressures, but they can also be as subtle as cultural mores and the personalities of, or relations among, senior leaders. In both components of the environmental scan, the objective of gaining a reasonable—but not total—consensus and using the answer to the why question are essential to writing a successful plan. In some cases, scans can be used in conjunction with answering the why question or as a less challenging way to begin discussions.

The most critical step in this part of the process is to draw a set of conclusions from both scans that can be used to shape the rest of the strategic plan. The most important part of the scan is to understand *why* a factor is important and *how* it might affect the organization. For example, based on our scans we may conclude that we will not benefit from the same level of resourcing over the next several years. Consequently, we might decide that we must change how we do what we do to succeed in a resource-constrained environment.

Strategic Goals

Armed with a clear and shared understanding of the organization's purpose, and drawing from the conclusions from the scans, the central task of developing a handful of strategic goals becomes the key task—and the deliverable—in the strategic planning process. We recommend generally three to five goals derived from the conclusions. For these goals to be strategic, they need to be shared by everyone in every part of the organization. President John F. Kennedy famously asked a janitor at NASA what his job was and was told, "I am helping to put a man on the moon!" This clear understanding of the relationship between the tasks this individual performed and the higher level purpose of the organization is the cornerstone of successful strategies. Crafting the words for strategic goals can be challenging and time consuming, which is appropriate since they should be enduring and guide almost every aspect of the organization's operations, prioritization, and resourcing. Generic examples of strategic goals might include:

- Because we concluded that the future is likely to be more uncertain and complex, we may want our organization to become more adaptive.
- Because we concluded from our scans that future success will increasingly depend on other players, we may want our organization and its leaders to focus on building new/better relationships.

Insofar as these sample goals are ostensibly objectives for most organizations, more granularity is obviously required. Similarly, goals such as "focus on our core competencies" are in fact closer to being management imperatives or guiding principles than strategic goals. The key to developing a set of useful strategic goals is to ensure that as a group they clearly enable the organization to achieve its essential purpose in the environment seen in the scans. It is also important, but not always essential, that external stakeholders agree with and support the pursuit of the strategic goals of the organization.

Roles and Responsibilities

Every organization has assigned roles and responsibilities. They may be formal or informal, but they are always present. An effective strategic plan needs to define and refine roles and responsibilities in the context of the purpose, environment, and strategic goals described earlier. These descriptions should provide a clear view of what the "enterprise" looks like and how it operates. This part of the plan also delineates how relationships are defined and managed. At this point, there should also be clear descriptions in the plan of the relationships that are necessary for the success of the organization.

It is also essential to understand and agree on roles and responsibilities with key external entities. These include but are not limited to teammates, partners, stakeholders, and customers. The linkage between "customers" and the organization's purpose is especially important, and it is needed to build and maintain trust. If this does not happen, we should not count on customers' continued patronage.

Implementing Guidance

The final step in developing the plan is to describe the implementing process. This can be detailed and directive or broad and general. In many cases, organizations actually begin their strategic planning processes at this point, which can lead to a disjointed effort at best and damaging guidance to the organization at worst. The often used phrase "If you don't know where you are going, all roads are about the same" is apt for this situation. There are, of course, varying degrees of clarity in such plans, which is an important factor in how clear and/or detailed implementing guidance could/should be. Fundamentally, each organization should strive to harmonize all of its components against the strategic goals it has described.

It is beyond the scope of this article to chronicle all the options for designing "action plans," "Program Objectives and Milestones," "Program Evaluation Review Technique charts," and so forth. Any number of books, articles, consultants, and other resources are available to provide guidance. We would offer one caution, which is to ensure that any and all implementing plans are built around the framework established by the strategic goals. By using these goals as the framework for implementation, an

Air National Guard (ANG) chief of recruiting and retention discusses issues with National Guard senior leaders at ANG Senior Leadership Conference, which offers single forum for senior leaders and unit commanders to exchange ideas and provide field input on critical issues affecting ANG (National Guard/Marvin Preston)

organization has a better chance to build the strongest possible sense of agreement and commitment to the implementation plan methodology and the actions proposed, meaning the strategic goals are more likely to be advanced.

Strategic Communications

The key to communications and strategic planning is to start early, and that must be an element of every part of the plan development process. Waiting until the plan is complete before deciding how to convince everyone it is *their* plan is generally unwise. The essential task is to ensure that each step enjoys clear understanding and broad support both internally and externally. Plan writers will not be the ones integrating, synchronizing, and prioritizing the work/actions of the organization in concert with the goals. Making sure participants are genuinely welcome to voice their concerns and raise questions not only builds support but also produces better results and possibly averts catastrophes. Offering stakeholders a voice in the development and assessment of a plan, or merely allowing them to ask questions, is vital to gaining support. Finally, having open and robust communication channels promotes transparency and demonstrates commitment to the continuous improvement of the plan.

Conclusion

There is a certain irony to writing a "how-to" guide for a process that is as dependent on context as strategic plan development. There are hundreds of factors to consider, and they must obviously be tailored to the needs of the organization and the nature of the mission. How the process is actually conducted, from the use of such techniques as breakout sessions, brainstorming, and team-building activities to the use of internal or external facilitators, are matters that leaders need to consider carefully. The two key elements that should always be present are ensuring that every participant has a chance to be heard and that organizations are building their plans around the reasons they exist.

Let us offer a few more admonitions for those who are embarking on this challenging endeavor. First, this is not a time for senior leaders to bluff or show a lack of candor. The troops will know if leaders believe what they say. Moreover, leaders will depend on all the participants for courage and candor throughout the process. Strategy by nature assumes risk and uncertainty, and a strategic plan must be developed with a clear recognition of these realities. At the end of the day, the effort is designed to make decisions about what "investments" are the best bets for an organization since there will always be risk. But it falls to leaders to manage that risk and accept the consequences of their judgment and decisions.

There is no school solution or ironclad template for how to develop a strategic plan. Obviously the process needs to be tailored to the needs, culture, and preferences of individual organizations. This article's greatest value may be in the questions and considerations it raises for those who are involved in, planning, or contemplating such efforts.

We encourage strategic planners to be bold and creative and above all to listen—both to others and to themselves. Planners often fail to hear their own voices and ignore their own visions because they spend all their time cobbling together the equities of everyone else. Finally, nothing is final. The best plans are continually assessed and adjusted as factors change. **JFQ**

Note

[1] See Simon Sinek, *Start with Why: How Great Leaders Inspire Everyone to Take Action* (New York: Portfolio, 2009); and Simon Sinek, "How Great Leaders Inspire Action," *TED.com*, September 2009, available at <www.ted.com/talks/simon_sinek_how_great_leaders_inspire_action.html>.

Rifleman listens as Marine career planner explains available career choices (U.S. Marine Corps/Nana Dannsa-Appiah)

The Intentionality of Education

By Carol A. Berry and Eurydice S. Stanley

Dr. Carol A. Berry is Director of Defense Activity for Non-Traditional Education Support (DANTES). Lieutenant Colonel Eurydice S. Stanley, USA, is the Reserve Component Advisor for DANTES.

As we pull out of Afghanistan, a different battle looms: a threat that affects all Servicemembers, their families, and their future generations. Realizing that the current environment is challenging for all, Department of Defense (DOD) leadership must influence Servicemembers regarding their education and professional credentialing while they serve. This is especially important for those in the crosshairs of the force-shaping cuts faced by each of the Services. At some point, the transition to civilian life is inevitable for everyone in uniform. The success of that transition is tied to preparation on many levels, including financial, educational, and emotional. Our organization is here to help with the process.

We serve at the Defense Activity for Non-Traditional Education Support (DANTES), which provides educational programs and products through DOD education centers. Our military staff provides training sessions directly to the troops about these educational opportunities and the effect these programs can have on their futures and those of their families. During training, it became apparent that too many Servicemembers had not considered furthering their educations. On one postsession survey, when asked why he had not pursued education, a participant responded, "Too lazzy, [sic] I guess."

In *The 15 Invaluable Laws of Growth*, leadership expert John Maxwell discusses the Law of Intentionality by stating that personal growth does not just happen: "In order to reach one's potential, to grow, there has to be intentional effort expended."[1] This applies especially to the pursuit of education. Maxwell posits that if individuals want to improve, they must improve themselves. Pursuit of higher education or professional credentials certainly qualifies as intentional growth. Many only need a trigger—something to kickstart their journey of growth. It is in this area where we need DOD leadership to help influence Servicemembers to intentionally pursue their civilian educations as part of their professional military development.

The case can be made that civilian education is as important as professional military education, working in concert to produce the best possible Servicemember. Both types of education can serve as a means of increasing the capabilities of today's warfighter, and both can be seen as leadership's obligation to encourage. Captain Mike Denkler (Ret.), former Naval Air Station Pensacola Base commander, stated, "[I]t is an obligation of any unit's leadership to take an active role in professional development, on duty and off duty. Knowledge and skills learned in any classroom will be of great benefit to the individual and the unit. A Smart Soldier = Disciplined Soldier = A Good Leader and Motivator, on and off the battlefield."[2]

Changing the Culture

DOD Instruction 1322.25, "Voluntary Education Programs," states:

Providing access to quality postsecondary education opportunities is a strategic investment that enhances the U.S. Service member's ability to support mission accomplishment and successfully return to civilian life. A forward-leaning, lifelong learning environment is fundamental to the maintenance of a mentally powerful and adaptive leadership-ready force. . . . This helps strengthen the Nation by producing a well-educated citizenry and ensures the availability of a significant quality-of-life asset that enhances recruitment and retention efforts in an all-volunteer force.[3]

During the 2012 DOD Worldwide Education Symposium, Dr. Martha J. Kanter, Under Secretary of the Department of Education, stated, "As we adapt to the ever-changing fiscal environment, a new culture must also be developed within the Department of Defense—one that embraces and promotes education."[4] Lifelong learning is a common refrain within the military; it needs to be part of the culture, part of the military ethos. When Soldiers pledge to maintain their arms, their equipment, and themselves, their pledge should also include personal growth and investment in their futures. Such a shift is needed as DOD continues its drawdown toward a projected 490,000 Servicemembers.

Most would agree that education affords transitioned Servicemembers the chance of a better quality of life as they seek civilian employment. A U.S. Census report found that over an adult's working life, high school graduates can expect, on average, to earn $1.2 million; those with a bachelor's degree, $2.1 million; and those with a master's degree, $2.5 million.[5] In addition to higher salaries, individuals 25 years and over with at least a bachelor's degree have a much lower unemployment rate—about 3.8 percent compared to 7.4 percent for the total population.

The professionalism, expertise, and exemplary military training of Servicemembers are no longer enough to be competitive in today's labor market. Getting an education serves as the golden ticket to get them through the door for interviews. Without it they may face underemployment or unemployment. According to the Bureau of Labor and Statistics, unemployment rates for veterans aged 18–24 hit a high of 29.1 percent in 2011.[6] We have seen unemployment benefits exceed half a billion dollars, and this has a significant effect on the DOD budget. These unfunded budget hits combined with the $486 billion budget cut known as sequestration leads to countless reasons why education is important both to DOD leadership and to all Americans. Even as unemployment rates for veterans fall into line with those of Americans of the same age, there is still the need to encourage educational pursuits.

Investing in education supports the President's mandate. In his first speech to a joint session of Congress in 2009, Barack Obama stated:

I ask every American to commit to at least one year or more of higher education or career training. This can be community college or a four-year school; vocational training or an apprenticeship. But whatever the training may be, every American will need to get more than a high school diploma. And dropping out of high school is no longer an option. It's not just quitting on yourself, it's quitting on your country—and this country needs and values the talents of every American.[7]

DANTES

DANTES supports the voluntary educational function of the Office of the Secretary of Defense and military Services by administering nontraditional educational programs, managing specified contracts for educational and informational materials, conducting special projects and developmental activities, and performing other management and educational support tasks. Moreover, we have numerous resources to assist with the identification, development, and support of educational goals for Servicemembers on our Web site.[8]

The DOD Offices of the Under Secretary for Personnel and Readiness and Deputy Assistant Secretary for Military Community and Family Policy guide our programs and policies, with input from the Services through their Voluntary Education Service Chiefs. The Navy is the executive agent for DANTES, which is a third echelon command located at Saufley Field, Pensacola, Florida. Our products and services are provided through the Services, education centers worldwide and directly to Servicemembers seeking to obtain college degrees or professional credentials.

Educational awareness training is exported to units in the form of the DANTES Handwriting on the Wall (HOW) training brief, a term made popular by the bestselling change management book "Who Moved My Cheese?" by Spencer Johnson.[9] HOW was developed soon after the August 2011 U.S. Army Transition Plan. The brief leverages the urgency of the drawdown and the need for Servicemembers to take action using the products and services offered by DANTES.

Attendees of our educational briefs told us that reasons they did not pursue higher education included lack of time, uncertainty about where to start, financial issues, belief they had already met educational goals, family responsibilities, and mission requirements. However,

three other issues were identified in open-ended questions that concerned us: belief that higher education is not needed, lack of motivation, and fear. Leader intervention can turn these attitudes around. Encouragement and guidance on the personal development continuum can make all the difference in the world to these troops.

While Servicemembers respond positively to our sessions, many have not considered a life outside the Service. As they realize that a military retirement is no longer a guarantee, attendees acknowledge that they have to prepare. As reported in *Army Times*, Lieutenant General Howard Bromberg, Army Deputy Chief of Staff for Personnel, stated that sequestration could lead to involuntary separations for an additional 24,000 enlisted personnel and 7,000 officers.[10] The early retirements and involuntary separations are projected to be completed by September 30, 2017.

Acknowledging that DANTES can only reach a fraction of the personnel who need to hear its message, especially those caught up in similar cuts for every Service, we believe those in leadership can make a difference by raising a sense of urgency in their troops to make a plan—to be intentional about their future. To help leaders frame the conversation, we suggest specific topics of conversation.

Key questions such as the following facilitate this frank and important discussion with subordinates:

- Do you have an educational degree or credential?
- Are you aware that the Tuition Assistance Program offers as much as $4,500 every year toward your educational pursuits?
- Do you know how close you are to completing a degree?
- How did you do on the Armed Services Vocational Aptitude Battery (ASVAB)?
- What do you plan to do after you leave military service?
- What are you doing today to plan for your future?

For many of these questions, the answers can be found in the voluntary education program offerings. Following these questions, the next step should include a visit to the local military education center, to a Service-supported voluntary education Web site, and to the DANTES Web site.

The four key components of a successful transition discussion are found in the acronym HELP:

- H: higher education/credentialing
- E: employment
- L: lifelong learning
- P: productivity.

By promoting the importance of higher education or credentialing, leaders can help prepare Servicemembers for viable military or civilian employment. Visionary leaders promote lifelong learning, which we believe improves DOD productivity through organizational effectiveness, individual innovation, and increased numbers of independent strategic thinkers within an organization. Leadership support of this endeavor could not come at a more critical time. With the decline in the number of counselors and education centers into more centralized service, troops may not have ready access to trained education specialists. Leadership influence may be just the ticket to motivate individuals to seek out these specialists and begin their educational journeys.

Leveraging Military Training and Testing

Leaders can refute the misconception held by many Servicemembers that earning a college degree is a goal too far. We can assure them that by leveraging the various sources of college credit available, getting that 2- or 4-year degree is well within their reach and can be considered part of their "Continuum of Learning":

Force development is a deliberate process of preparing Airmen through the Continuum of Learning [COL] with the required competencies to meet the challenges of the 21st century. The COL is a career-long process of individual development where challenging experiences are combined with education and training through a common architecture to produce Airmen who possess the tactical expertise, the operational competence and the strategic vision to execute and lead the full spectrum of [Air Force] missions. . . . Force development is like a four legged chair: recruiting the right people, training them, educating them and giving them the right professional experiences.[11]

Myriad educational resources available to Servicemembers strengthen the educational leg of that chair. A college course funded through the Services' tuition assistance programs or by use of a member's GI Bill is one way to earn college credit. There are other credit sources that can significantly shorten the timeframe for completing a degree including credit for military training and for passing college level examinations through the College Level Examination Program (CLEP) and DANTES Subject Standardized Test (DSST). The Council for Adult and Experiential Learning conducted a study titled "Fueling the Race to Success," in which they found that those who used prior learning, to include credit for Service schools and academic testing such as the CLEP and DSST examination programs, graduated at higher rates and finished their degrees faster than their contemporaries who did not use prior learning as part of their degree requirements. These results held despite the age, ethnicity, race, or gender of the students and regardless of whether they attended public, for-profit, or nonprofit institutions.[12]

By intentionally leveraging military training, troops can accelerate the timelines to their degrees. As a result of a contract with the American Council on Education (ACE), thousands of military training courses have been evaluated and carry recommended academic credit. These credits may be accepted toward degree completion by academic institutions. To better facilitate the application of these credits, the Army recently joined forces with the other Services to form the Joint Services Transcript (JST), which is based on the highly successful Navy Sailor-Marine American Council on Education Registry Transcript (SMART).

Medical flight commander takes notes during Transition Assistance Program class in Airmen and Family Readiness Center on Ellsworth Air Force Base (U.S. Air Force/Kate Thornton)

SMART was the most likely platform to build this transcript since it is the only military credit document that carries the ACE seal of approval. As a result, DANTES and ACE can train colleges and universities how to interpret this standardized document for maximum transferability to Servicemembers. Additionally, the single source, single Web site, and format make the JST more accessible and usable by all the various stakeholders. This is crucial because in addition to quickening the pace to earn a degree, DANTES analyzed data from Servicemembers Opportunity Colleges (SOC) degree plans and found that over 748,000 credits from the JST were applied to degree plans. This equates to over $150 million in tuition assistance cost avoidance and a hefty return of investment of about 1 to 44. For every dollar DANTES spent on the ACE contract, there is a $44 return.

In addition to using credit for military training, Servicemembers can earn more college credit by passing a CLEP or DSST exam. Last year, thousands passed and applied CLEP and DSST credit to their SOC degree plans. Looking at fiscal year (FY) 2012 graduates of the Community College of the Air Force and SOC degree plans for Army, Marine Corps, Navy, and Coast Guard personnel, testing accounted for over 119,000 college credits applied toward graduation requirements. The academic testing program funded by DANTES saved over $26 million in tuition assistance cost avoidance, or about a 1 to 3 return on investment for those contracts.

The key is *awareness*. The more our troops know about these sources of college credit and how to leverage them, the more likely they are to use them to shorten the time to graduation. Imagine the cost avoidance for tuition assistance and GI Bill expenditures that may be realized if the JST and academic testing programs were used more frequently by both Active-duty and veteran populations. This is a win-win for the Servicemember, the Services, and the taxpayer.

Infusing Education

By infusing education into training briefs, making the message commonplace, and reinforcing its necessity and importance, leaders can raise the awareness and generate the sense of urgency that triggers action. As we traveled across the country adapting our educational awareness training in support

of mandated unit training, we found a direct correlation between the interest and attention of Servicemembers when training is attended and supported by leadership.

For example, four training sessions were conducted for the Virginia National Guard during FY12 for the Martin Luther King, Jr., holiday, asking the question, "Education: Right or Responsibility?" In addition to outlining the available resources provided in the voluntary education program, attendees were presented with a compelling argument that they needed to seize the opportunity and pursue their degrees. Specifically, we emphasized their need to pursue their goals with more focus and intentionality. As stated by Dr. King, "The function of education is to teach one to think intensively and to think critically. Intelligence plus character—that is the goal of true education."[13]

Similarly, briefs were conducted at numerous Women's History Month observances from Pensacola, Florida, for the Gulf Coast Veterans Administration, to the Army Reserve in Alaska. Major General Raymond Palumbo, then commanding general of U.S. Army, Alaska, sponsored the training to promote the importance of education and emphasized that regardless of sex, education empowers those who obtain it. According to Anita Soni from the Agency for Healthcare Research and Quality, female veterans must "choose education to improve our socioeconomic status as well as our physical or physiological health." Her claim is supported by a Government Accountability Office claim that the number of homeless female veterans has expanded from 1,380 in 2006 to 3,348 in 2010. Many of these women resided with their minor children, affecting another generation.[14]

Transition Affects Everybody

Transition preparation is not only a consideration for junior Servicemembers. It affects every member of DOD. Some Servicemembers weaved education throughout their careers and were well prepared when the right opportunity presented itself. For example, Rear Admiral Barry C. Black, who retired at age 53 from the Navy after 27 years of service, continued along the same service vein as the 62nd Chief of Chaplains for the Senate.

While in uniform, Dr. Black attended Oakwood College, Andrews University, North Carolina Central University, Eastern Baptist Seminary, Salve Regina University, Norfolk State, Savannah State, Princeton, Harvard, and the United States International University. In addition to earning masters of art degrees in divinity, counseling, and management, he earned a doctorate degree in ministry and a doctor of philosophy degree in psychology. Dr. Black believes in lifelong learning, advising all military personnel to prepare for their next life after service.[15]

Another example is Navy Master Chief David Acuff, DANTES Senior Enlisted Advisor, who made great use of the Navy's voluntary education program by earning both a bachelor's and master's degree while serving in the Navy's medical community. He began his master's program in 2008, graduating 4 years later with a master's in healthcare administration. His motivation for pursuing graduate study was his family. As a single parent with four children who was nearing the end of a 30-year career, he knew he would need to start preparing for civilian life, so he enrolled in the Healthcare Administration program at Trident University. He stated:

At the time, I had been a widower for a year and realized that I needed to prepare for the future. The Trident University program was completely online. I was able to do my homework at night after my (then) 2-year-old twins went to sleep since I couldn't sleep anyway. I realized that I probably couldn't support my family on a bachelor's degree and I wanted to be sure that I could take care of them.

His tuition was completely paid for through tuition assistance. Acuff plans to retire in 2015 and is preparing to pursue another certification before then: "I want as many credentials as possible to make me more marketable in the healthcare industry. I hope to obtain employment immediately upon retirement."[16]

For those who want to work in the trades or fields that do not require a 4-year degree such as welding, plumbing, computer security, network administration, truck driving, auto mechanics, or others, there are ample opportunities. These fields require educational experiences as well as professional credentialing. Those interested in these fields have programs available to help them, too: the Navy Credentialing Opportunities On-Line (COOL), Army COOL, and Air Force COOL each have skills gaps analysis sections, credentialing information, and other career enhancing information.

Reducing the Cost of Education

Tuition assistance is a benefit that every Servicemember should maximize. Current policy allows up to $250 per semester hour, not to exceed $4,500 annually. At the 2012 DOD Worldwide Education Symposium, Holly Petraeus, assistant director of the Office of Servicemember Affairs Consumer Financial Protection Bureau, addressed the topic of predatory lenders who target Servicemembers.

Former Defense Secretary Leon Panetta addressed the issue with Petraeus at a Pentagon brief on October 18, 2012, and both noted the increase in unscrupulous financial practices of some educational institutions and its potential long-term impact. Petraeus posits that the number of Servicemembers who have fallen behind on student loan payments may be greater than the servicing of home mortgages for the military. The programs available to Servicemembers, such as tuition assistance and post-9/11 GI Bill, are sufficient for them to obtain educations without incurring debt.

A recently implemented DOD memorandum of understanding (MOU) is designed to help protect troops by requiring institutions of higher learning to adhere to specific principles of best practice regarding military students. The MOU program articulates the commitment and agreement educational institutions provide to DOD by accepting funds via each Service's tuition assistance program in exchange for education services.

Other Programs

The DANTES Web site boasts a wide variety of products to help Servicemembers pursue their educational goals. Some of these products can be career-extending for those who take the initiative to leverage them, hence the importance of leadership's influence to encourage taking personal initiative to get started.

One such program is the Online Academic Skills Course (OASC), which has proved effective in the education and potential retention of Servicemembers. The program offers remedial verbal skills and math for members of the U.S. military and their families. OASC has helped many Servicemembers to increase their ASVAB scores. Better scores can lengthen careers, allowing changes of Military Occupational Specialty (MOS) to areas the Services need. Some have leveraged this program to prepare themselves for college, which can prove cost-effective by reducing the number of courses taken. In a study of 657 matched records of Army Soldiers who participated in a structured pilot, 81 percent improved their Armed Forces Qualification Test score enough to be eligible to change their MOS.[17] By taking the time to invest in personal development, troops can influence their careers and their futures while meeting critical manning needs.

Troops to Teachers (TTT) helps eligible Servicemembers find employment as teachers in our schools. As of the National Defense Authorization Act for FY13, it is fully realigned with DOD. The program has been in place for nearly 20 years and has put more than 13,500 boots into classrooms across the country. Many of these individuals serve in at-risk schools and teach high-need subjects where Servicemembers find their leadership, training, and mentorship skills have been especially successful.

More than 95 percent of veterans participating in the TTT program completed their initial 3-year teaching assignments, positively influencing America's children. Military teachers are filling the science, technology, engineering, and mathematics gap experienced in many schools. More than 27 percent of TTT participants teach mathematics, compared to 7 percent of teachers nationwide. Forty-six percent teach the sciences (biology, geology, physics, and chemistry) compared to all U.S. teachers, and 44 percent teach special education, compared to 19 percent of all teachers.[18]

In the 2008 DOD Influencer Poll, the authors found that nonparental influencers, including schoolteachers, have an effect on students regarding the choice to pursue the military career option following high school. Educators who are former Servicemembers are potential force multipliers for recruiters seeking to engage the best candidates for military service.[19]

This is important on several levels:

- Having a robust higher education program that dovetails with other professional development may satisfy what most influencers (parent and nonparent) overwhelmingly recommend for their children, which is higher education rather than the workforce or military service.
- Assuming the influencer populations comprise veterans and retirees, their experience in the military as it relates to higher education is critical. If they were unable to participate, that may negatively affect the options they discuss with their youth.
- TTT is a positive influence in the classroom. As frontline teachers, its participants have direct access to youth and can be positive influencers for military service. Their relationship with the parents of these young people is another critical connection that may influence the continued success of an all-volunteer force.

In a study of TTT participants in Texas, the educators raised student achievement levels, improved classroom management and student discipline, and were successful role models.[20] In a Florida study that examined reading and mathematics achievement, students taught by TTT participants had significantly higher achievement levels over students taught by others with equal teaching experience.[21] Furthermore, those TTT participants who moved into administrator roles were rated by their supervisors as proficient or distinguished in all six elements of the Interstate School Leaders Licensure Consortium Standards.[22]

As part of the new Transition Goals Plans Success program, known simply as Transition GPS, attendees are asked if they would like more information on the TTT program as another way to identify qualified participants. Why is this particular program so important to DOD? In the white paper "Ready, Willing and Unable to Serve,"[23] the authors paint a bleak picture regarding the pool of candidates in which the Services have to find quality recruits. Of the prime population of those aged 18–24, roughly 75 percent are unable to join the military. While the reasons vary (lack of education, obesity, physical problems, or criminal history), the issue is how DOD can stay competitive in recruiting the necessary end strength from the remaining 25 percent. Teachers are part of that wider span of "influencers," and because TTT participants are excellent role models who leverage their life experiences in the classroom, they serve as a positive influence.

The Kuder Military Career and Transition System offers Servicemembers the opportunity to participate in self-assessments that can help guide them through their career planning process, career decisionmaking, and job search—in short, it helps them develop transition strategies. This program is available to Servicemembers in all stages of their careers free of charge.[24] Once an account is activated, it is available for the rest of the Servicemember's life.

The program walks participants through a seven-step career decision-making process based on their interests and their MOSs, should they desire to pursue those areas once they leave the military. The Kuder Journey highlights educational fields to help identify careers that would be of potential interest to Servicemembers, areas of growth for the future, and careers that have yet to be identified.

One substantial selling point for education is that there is a direct correlation to the number of available jobs based on

the level of education attained; more education brings more occupational options. Participants will clearly see that most jobs require either a 2- or 4-year degree, and it is hoped that will serve as an incentive to continue their educations. The program identifies accredited schools that provide degree programs in the participants' areas of interest along with information regarding graduation rates for each school, which can be critical when determining whether an institution is the best choice.

Kuder Journey was designed to help participants tailor their job decisionmaking around who they are, not necessarily what they have done. It serves as a "one-stop shop," providing options to create résumés, apply for financial aid, search for jobs, and upload videos.

By merging an Individual Transition Plan with an assessment such as Kuder Journey, Servicemembers will have taken great strides toward specifically identifying their personal interests and goals. That information is ideal for developing the life plan recommended by Maxwell.

Ultimately, education is a choice. John Ebersole's and William Patrick's *Courageous Learning* provides vignettes of adult learners who despite all odds achieved their educational and professional goals.[25] In one, a Soldier related how after patrol, and once his fellow Soldiers went to bed, he stayed up studying, writing papers, and chipping away at the coursework he needed to get his degree before retirement. His story is a common illustration of the resilience necessary to obtain one's goals. As leaders, we must relay similar stories of intentionality and focus to help other Servicemembers become committed to developing personal growth plans.

Leaders set the tone, expectations, and standards for Servicemembers. One means of remaining committed to this leadership obligation is to ensure that the troops do more for themselves. Leaders have a responsibility to send them back to civilian life as better citizens, and they can help Servicemembers understand that there is a greater likelihood of finding more fulfilling employment when they combine their military experience with higher education. Leaders should help the troops make the intentional choice to pursue education so they can quickly adapt to change as well as seek continual growth through lifelong learning. By helping the troops we are helping ourselves because we will quickly see that this effort is well worth the time and energy. The future of the Armed Forces depends on it. **JFQ**

Notes

[1] John C. Maxwell, *The 15 Invaluable Laws of Growth: Live Them and Reach Your Potential* (New York: Center Street, 2012), xiii.

[2] Michael Denkler, interview by authors, Pensacola, Florida, June 2011.

[3] Department of Defense (DOD) Instruction 1322.25, "Voluntary Education Programs," March 15, 2011, Incorporating Change 1, December 6, 2012.

[4] Martha Kanter, remarks at DOD Worldwide Education Symposium, Las Vegas, July 25, 2012, available at <www.ed.gov/edblogs/ous/files/2012/08/DOD-Worldwide-Sypmosium-Kanter-07252012.pdf>.

[5] Tiffany Julian, "Work-Life Earnings by Field of Degree and Occupation for People with a Bachelor's Degree: 2011," American Community Survey Briefs, October 2012, available at <www.census.gov/prod/2012pubs/acsbr11-04.pdf>.

[6] Bureau of Labor Statistics, "Employment Situation of Veterans—2011," March 23, 2012, available at <www.bls.gov/ted/2012/ted_20120323.htm>.

[7] President Barack Obama, Remarks as Prepared for Delivery, Address to Joint Session of Congress, February 24, 2009, available at <www.whitehouse.gov/the_press_office/Remarks-of-President-Barack-Obama-Address-to-Joint-Session-of-Congress>.

[8] See Defense Activity for Nontraditional Education Support (DANTES) Web site, available at <www.dantes.doded.mil>.

[9] Spencer Johnson, *Who Moved My Cheese? An Amazing Way to Deal with Change in Your Work and in Your Life* (New York: G.P. Putnam's Sons, 1998).

[10] Jim Tice, "Cutting 25,000 Soldiers," *Army Times*, October 29, 2012.

[11] Edward Rice, "Develop America's Airmen Today . . . for Tomorrow," address, Air Education and Training Command Symposium 2012, San Antonio, Texas, January 12–13, 2012, available at <www.aetc.af.mil/shared/media/document/AFD-120120-025.pdf>.

[12] Lumina Foundation for Education, "Fueling the Race to Postsecondary Success: A 48-Institution Study of Prior Learning Assessment and Adult Student Outcomes," March 2010, Council for Adult and Experiential Learning, available at <www.cael.org/pdf/PLA_Fueling-the-Race.pdf>.

[13] Martin Luther King, Jr., "The Purpose of Education," Morehouse College Student Paper, February 1947, available at <www.drmartinlutherkingjr.com/thepurposeofeducation.htm>.

[14] Government Accountability Office (GAO), "Homeless Women Veterans: Actions Needed to Ensure Safe and Appropriate Housing," GAO-12-182 (Washington, DC: GAO, December 23, 2011), available at <www.gao.gov/products/GAO-12-182>.

[15] Barry C. Black, interview by authors, n.c., n.d.

[16] David M. Acuff, interview by authors, n.c., August 13, 2013.

[17] J. Holsinger, "Online Academic Skills Course Effectiveness Study," June 2011.

[18] C. Emily Feistritzer, *Profile of Troops to Teachers* (Washington, DC: National Center for Education Information, 2005).

[19] Ricardo S. Carvalho et al., "Department of Defense Influencer Poll Wave 10," Overview Report, June 2008, available at <http://jamrs.defense.gov/Portals/20/Documents/Influencer_Poll_10.pdf>.

[20] Jo Webber, Paul Raffield, and Meryl Kettler, Troops as Teachers in Texas: Are They Effective? (Austin: Texas Military Initiative/Troops to Teachers).

[21] William A. Owings, Leslie S. Kaplan, and John A. Nunnery, "The Effects of Troops to Teachers on Student Achievement: A Meta-Analytic Approach," paper presented at the American Educational Finance Association Conference, Nashville, TN, March 2009.

[22] William A. Owings et al., "Supervisor Perceptions of the Quality of *Troops to Teachers* Program: Completers and Program Completer Perceptions of their Preparation to Teach: A National Survey," Old Dominion University, August 29, 2005.

[23] "Ready, Willing, and Unable to Serve: 75 Percent of Young Adults Cannot Join the Military," *MissionReadiness.org*, available at <http://cdn.missionreadiness.org/MR-Ready-Willing-Unable.pdf>.

[24] This Career and Transition System, specifically designed for the U.S. military by Kuder, is a comprehensive online resource to help Servicemembers plan for the future; available at <www.dantes.kuder.com>.

[25] John Ebersole and William Patrick, *Courageous Learning: Finding a New Path through Higher Education* (New York: Hudson Whitman/Excelsior Press, 2011).

Airman serves as Victim Advocate at Community Violence Intervention Center at Grand Forks Air Force Base (U.S. Air Force/Susan L. Davis)

Sexual Assault and the Military Petri Dish

By Andreas Kuersten

Andreas Kuersten is a third-year law student at the University of Pennsylvania Law School. He has interned with both the U.S. Navy and the U.S. Air Force Judge Advocate General's Corps and is currently with the Air Force's Civil Litigation Division.

For years, the issue of sexual assault in the U.S. military has fallen under constant scrutiny. Nonprofit organizations, Senators, and countless others have directed criticism to both the prevalence of sexual assault within the military and the measures taken to address it. The attention is certainly warranted; not only is sexual assault a serious crime with significant ramifications, but it is also a direct threat to national security by disrupting the unity and discipline of the Armed Forces. However, the increased

Chief of Staff of the Army General Raymond T. Odierno speaks during Service's official recognition of Sexual Assault Awareness Month at Pentagon, March 2014 (U.S. Army/Alfredo Barraza)

condemnation of the military appears to miss what should be the overall goal and potential of this movement and the military's intimate involvement: civil-military cooperation toward society-wide sexual assault prevention.

The military offers a unique and ideal environment for social and legal experimentation—not haphazard trial and error, but true academic research and implementation. The Armed Forces have directly and indirectly served this purpose in the past. Pertinent examples include desegregation and homosexual integration. America's military ranks and legal system are centrally controlled and relatively immune to the pressures of elected politics. They can implement policy much more quickly and efficiently than civilian society. In addition, military leadership has the ability to withstand failed but well-researched and reasoned endeavors. Moreover, the military climate strongly favors action and is conducive to immediate steps to stem the tide of sexual assault across the branches.

In beginning this analysis, however, it makes sense to take a step back and examine the criticisms often aimed at the Armed Forces when it comes to sexual assault, and how they have skirted around and diverted attention from the overall goal this article puts forth. Three of the most prominent attacks leveled against the Armed Forces, directly and indirectly, are that the military is a more disciplined section of society with a unique sexual assault problem and should therefore be held to a higher standard in handling it; the increase in reported sexual assault evidences the military's failure to adequately do so; and this failure can be largely attributed to military law.

A Higher Standard

Critics frequently assert that the military should do more, yet they fail to cite comparable civilian situations. There is often an implicit argument that the military should be held to a higher standard than civil society in tackling sexual assault. While this proposition is accurate, it is true for specific reasons that often go unmentioned.

It is often implied, and stated outright by the military itself,[1] that the Armed Forces should be held to a higher standard because it is a more controlled and disciplined section of society. Certainly, each branch presents itself as a builder of better people. Through the rigor of training, Soldiers, Marines, Sailors, and Airmen are taught, among other things, the virtues of honor, discipline, loyalty, and respect. All these values are grossly inconsistent with acts of sexual assault. But military service is not a bubble where, upon entry, individuals are stripped of every prior societal influence and never again intermix with outside communities. As Micah Zenko and Amelia Mae Wolf point out, recruits have lived at least 17 years before exposure to the military lifestyle and continue to be members of civilian society afterward.[2]

Sadly, however, most sexual assaults occur where the direct strictures of military command hierarchy fail to reach. They are committed in homes, dormitories, bars, and numerous other environments, and alcohol and other substances are often involved. Despite the reach of official military training, values, and discipline, they have proved unable to have their desired effect because society in general also has a sexual assault problem that exerts great influence on Servicemembers. Critics who fail to note this and hold the Armed Forces to a higher standard under the implication that sexual assault is a military problem are ignoring a key impediment to Pentagon efforts. Sexual assault is an epidemic that plagues all corners of society, and the military, it turns out, is not exempt.

Studies on sexual assault in civil society often disagree, but they all generally point to its pervasiveness. The Department of Justice (DOJ) found that sexual assault only occurred at a rate of 0.9 victims per 1,000 people in 2011.[3] Conversely, the Centers for Disease Control and Prevention (CDC), National Center for Injury Prevention and Control, found a year prior that in a 12-month period, 5.6 percent of women suffered sexual violence other than rape, 1.1 percent suffered actual or attempted rape, and 5.3 percent of men suffered sexual violence other than rape. (Data were not available on the percentage of men who suffered actual or attempted rape during the period because the incidences were too few.[4]) Both studies excluded those in military barracks but did not bar other Active-duty Servicemembers. But with these individuals making up only 0.4 percent of the population, this is largely irrelevant.[5]

While both studies have their strengths and weaknesses, the CDC

report appears more accurate. Unlike the CDC study, the DOJ analysis is not focused on sexual assault; rather, it analyzes criminal victimization in general. Zenko and Wolf have also noted that the CDC study employs metrics far more similar to those in comparable studies aimed at the military. Furthermore, the DOJ itself has previously noted the weakness in its rape and sexual assault analytic methods.[6] Yet even a percentage lying somewhere between the two studies means millions of Americans suffer some form of sexual assault every year.

Studies of specific civilian segments of the population reveal more disheartening data. A 2000 study titled "The Sexual Victimization of College Women" estimated that 4.9 percent of female university students suffered rape or attempted rape during the calendar year and 15.5 percent were sexually victimized in some way during the academic year.[7] A 2007 study on rape by the Medical University of South Carolina's National Crime Victims Research and Treatment Center estimated that 5.2 percent of college women suffered rape that year, excluding attempted rape and sexual assault.[8]

Thus, the military's inability to fix the problem of sexual assault in its ranks is likely, at least in part, a reflection of the military's intimate connection to the broader community where the issue also remains pervasive. This becomes most apparent when comparing the situation in civilian colleges to that in the Armed Forces, as Rosa Brooks did in *Foreign Policy*.[9] Seventy-three percent of military victims are ranks E-1 to E-4—in other words, junior grade enlisted members whose ages, living situations, and behavior align with those of college students.[10]

No matter the effort, discipline, or hierarchical structure, the military will never be able to completely tackle the issue of sexual assault on its own. That is not to say it should not try, and it *should* be held to a higher standard in protecting and educating those in uniform and others. But this higher standard should be advocated for reasons other than the military being more disciplined or sexual assault being a uniquely military problem. Rather, the standard should be higher because of the damaging impact sexual assault has on America's fighting forces and therefore national security—and also because, as this article concludes, the military offers America's best chance at making real and lasting progress in the battle against sexual assault.

The discipline and structure of the military are, however, an effective critique of the poor results the Armed Forces have had in confronting the problem. In theory, this structure should enable the issue to be addressed swiftly. So how has the military been doing?

Increasing Numbers

Pentagon research estimates that 26,000 military members were sexually assaulted in 2012,[11] compared to 19,000 in 2010.[12] It further states that 3,374 sexual assaults were reported in 2012—an increase over the 3,192 in 2011,[13] 3,158 in 2010, and 3,230 in 2009.[14] The Department of Defense (DOD) also estimates that 6.1 percent of women and 1.2 percent of men in the military experienced sexual assault in 2012, up from 2010 when the respective numbers were 4.4 percent and 0.9 percent.

At first glance, this trend appears troubling. How can it be that with all of the publicity and condemnation directed at the military and the new programs developed to prevent sexual assault, the problem has actually gotten worse? Perhaps there are additional routes one can take with this data.

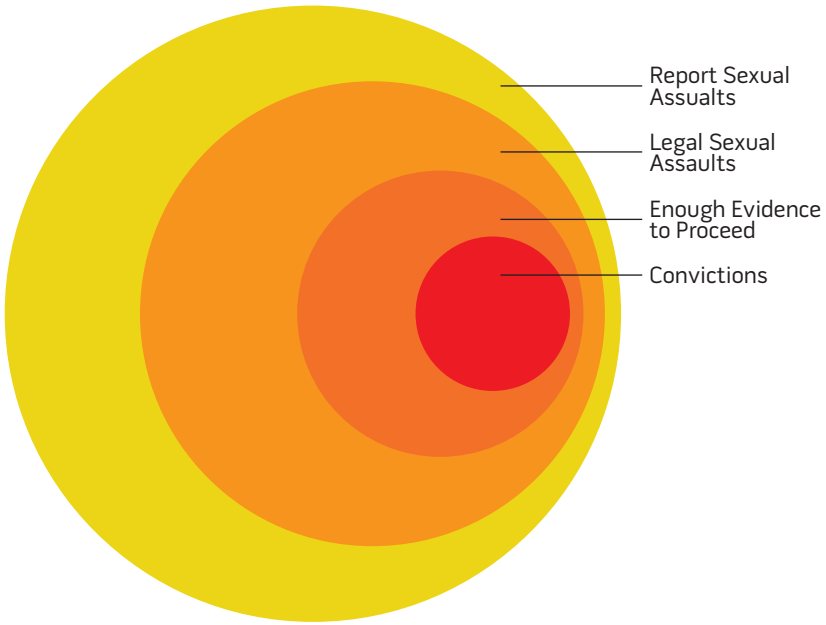
First, there are issues with these findings. Aside from likely being "unrealistically high,"[15] the study arriving at the estimated figure of 26,000 Servicemembers having been sexually assaulted is underinclusive, but perhaps simultaneously overinclusive in terms of its application to the military. It is underinclusive in that it does not consider results from civilians who have suffered sexual assault at the hands of Servicemembers. Military members are not the only victims of sexual assaults perpetrated by those in the Armed Forces, and civilians should be included in studies addressing the Pentagon's handling of the issue. The estimate may be overinclusive in that it does not identify the perpetrators of the assaults. Servicemembers suffer these crimes at the hands of those outside of the military as well as those within, as the data make clear. Yet the Armed Forces have far less power and influence over those outside of their command structure who might harm Servicemembers.

Regardless of how these alterations to any future study might adjust the data, the finding that the number of sexual assault victims and reports is rising is not necessarily entirely negative. Increasing reports of sexual assault and self-identification by victims of such crimes can also be considered initial positive steps in this fight. The military has devoted considerable attention and resources to taking on this issue, starting numerous programs to address prevention and offering both legal and nonlegal victim support.[16]

There are several examples of what the military is doing. First, there is the creation of restricted reporting.[17] Many victims of sexual assault are wary of reporting the crime to authorities. This has been especially highlighted in the case of the military where a 2012 Pentagon study estimated that only 11 percent of sexual assaults were reported that year.[18] The predominant reasons among female victims were not wishing anyone to know, feeling uncomfortable making a report, not believing the report would be confidential, and fearing social and professional retaliation. Restricted reporting seeks to address this by allowing victims access to medical care, advocacy, and victim services without notifying the command or automatically initiating a criminal investigation. These restricted reports are filed, and victims maintain the option of making them unrestricted if they change their minds. Individuals have the opportunity to get care and assess their legal situations before opening their experiences to criminal procedure.

Second, the Sexual Assault Response Coordinator (SARC) program was created.[19] Out of this came the unit-embedded SARC position, whose training is now standardized through the Sexual Assault Advocate Certification Program.[20] These specially trained individuals exist

Figure



solely to assist victims of sexual assault confidentially in almost every fashion. They attend to the individual's needs and ensure victims know of and can access all the resources available.

Third, the Sexual Assault Prevention and Response Office (SAPRO) was created in 2005.[21] SAPRO serves as the centralized authority for addressing sexual assault in the military. This unification of projects and programs under one office serves to standardize the military's response to sexual assault across branches and provides a dedicated source of training and research. An example is Sexual Assault Awareness and Prevention Training, which is now a continuous and frequent requirement across the Armed Forces.

Fourth, Sexual Assault Awareness Month has created an annual period of even more intense sexual assault awareness.[22] Sexual Assault Awareness and Prevention Month has been a staple of April for years within the military. During this time, all branches additionally promote sexual assault awareness and conduct training events.

Fifth, the Air Force has spearheaded the Special Victims Counsel (SVC) program,[23] which was embarked on in January 2013. SVCs are lawyers whose sole function is to attend to the legal needs of victims of sexual assault. These victims may contact SVCs and receive personal legal assistance while their restricted reports remain confidential. Within 48 hours of contacting the SVC office, an individual will receive a response and representation. Preliminary results from the program appear positive. Approximately 300 Airmen were assisted from its inception to May 22, 2013. Twelve of the 22 victims who received SVC representation and filed restricted reports changed them to unrestricted reports so criminal procedures could commence. This 55 percent conversion rate is substantially above the 17 percent rate for the military as a whole in 2012.[24] Additionally, 95 percent of the victims who received SVC assistance stated that their counsel advocated effectively on their behalf and helped them better understand the process.[25] These results have led Representatives Tim Ryan (D-OH) and Kay Granger (R-TX) to introduce legislation mandating that the Pentagon expand the SVC program to the entire military.[26]

The highlighting of these actions is not meant as a pat on the back for the Armed Forces. Rather, they show a possible additional or alternative explanation for the sexual assault data emanating from DOD. These programs have significantly raised awareness of sexual assault within the Armed Forces, educated Servicemembers on these crimes, and encouraged and helped victims to come forth. With only an estimated 11 percent of sexual assaults reported, these increases should be expected from the programs the military has put in place. The desired results of these endeavors are consistent with the rising reports of sexual assault and self-identification by victims and therefore are possibly ripe for replication in the civilian world.

Nevertheless, there has clearly been an increase in reported sexual assaults and therefore increased pressure on the military legal system. How has the military been handling this increased pressure, and sexual assault in general?

The Military Legal System

In most respects, the challenges the military justice system faces in dealing with sexual assault are the same as those facing civilian systems. These cases are notoriously difficult because they often involve drugs or alcohol, few witnesses (usually only the parties involved), victims reluctant to cooperate, and lack of evidence. All this clouds the central issues—that is, proving the presence or lack of consent and the capacity to consent in the first place. Furthermore, many cases are not the types people typically envision when they hear the charge of sexual assault. They often do not involve strangers attacking individuals and physically compelling them to engage in sexual acts. A large number occur between parties who know one another and are both intoxicated, under circumstances where consent is an issue, and involve coercion that is not as clear as a stranger jumping out of the shadows and attacking. These situations still cause great harm to victims, but they are much harder to prosecute. The universal problem facing the prosecution of sexual assault can be illustrated through a tiered analysis (see figure). When getting to the final number of sexual assault convictions, one starts with every interaction that is reported as sexual assault. This number is whittled down to those that could actually be classified as sexual assault under the law.

The number is further diminished to cases where there is enough evidence to prosecute and/or the victim cooperates. The final number of sexual assault convictions is arrived at after these cases have been adjudicated, with the perpetrators found guilty beyond a reasonable doubt. Ultimately, as Captain Lindsay Rodman, USMC, notes, "The inability to obtain a conviction in many of these cases is not the fault of the commander, prosecutor, or military justice system. Rather, it is a problem of expectation and misunderstanding about the capabilities of a criminal justice system."[27]

These troubles are made vivid in a recent study of military adjudication and conviction rates for sexual assault.[28] In response to strong criticism over low prosecution rates, from 2009 to 2010 the military increased its prosecution of sexual assault cases by 70 percent. Yet these prosecutions only resulted in a 27 percent conviction rate compared to the 90 percent conviction rate for all crimes. The military has always arguably prosecuted cases that would not have been prosecuted in civilian court, but this is now being explicitly shown by the numbers. Where civilian courts refuse to move forward because a case is "unwinnable,"[29] the military is pressing ahead.

This is troubling for three reasons. First, cases are going forth that may amount to "show trials." They might simply be prosecuted so the military can appease critics who want action. When these prosecutions end in acquittals, an arguably more severe hit to the military justice system occurs as victims lose faith in it and critics use these results as ammunition. The Armed Forces are stuck between a rock and a hard place and, as Rodman puts it:

By seeking to prosecute anyone accused of sexual assault without understanding the source of the underlying problem, leaders are actually contributing to the same cycle of acquittals they seek to avoid. Criminal prosecution is not the answer to resolving many of these reports. Overprosecution only perpetuates the problem because convictions are simply not achievable in many of these cases.[30]

Soldiers of 17th Field Artillery Brigade, 7th Infantry Division, participate in situational awareness training as it applies to sexual harassment and assault response and prevention (U.S. Army/Mark Mirandasb)

Second, military prosecutors are being forced to go after lesser charges in cases where they know they will not secure a conviction for sexual assault but are pressured into court. This has resulted in alleged rapes being prosecuted as adultery. Matt Collins noted that this leads to less satisfaction for a victim, who sees the accused escape with a misdemeanor, insufficient punishment, or pressure to plead guilty to adultery to avoid more severe charges.[31] Justice is not served.

Third, the low conviction rate could lessen the likelihood that victims will report sexual assaults. They may see a legal system that cannot provide them with justice and avoid engaging with it. This, in turn, may leave more offenders unpunished or embolden them to victimize others.

Having noted the military legal system's possible influence on sexual assault reporting and incident rates, it now makes sense to address the elephant in the room: commander control of the military legal system. As it stands, in contrast to civilian legal systems, commanders—not prosecutors—make the ultimate decision of whether a case goes to trial in the Armed Forces, and if the ruling and conviction are approved.

Critics of the military justice system have used this fact to attack it as outdated and tipped in favor of the accused, and to call for the removal of commander control.[32] Since commanders of the accused make the legal decisions, it is argued that they are more likely to side with the parties under their command. Moreover, they may not look favorably on victims who make serious allegations against individuals they know; thus, they may retaliate.

It is rare that a commander will refuse to pursue an allegation of sexual assault, throw out a conviction, or significantly reduce a sentence in the current climate of harsh scrutiny and repercussions.[33] In contrast to the allegations of critics, commander control is actually the reason for the comparatively high prosecution rate for sexual assault in the military versus broader society. Commanders have felt the pressure and responded by forcing prosecutors to push forward on cases that would otherwise not be pursued. Furthermore, the advent of the SARC and SVC positions increases commander accountability since these fairly independent actors can now be involved in sexual assault cases and protect the interests of victims.

Concerns over commander control are nonetheless valid. Such central control flies in the face of the more objective and removed prosecutorial offices in

civilian legal systems that most see as more effective in administering justice.

Yet there are key concerns when discussing military law, with one being that the military legal system's mandate is not only to administer justice, but also to maintain the discipline of a fighting force. The Supreme Court has explicitly acknowledged this function.[34] Building on this, centralized command is an important factor in maintaining the discipline of any group. Commanders might find it difficult to exercise the full control over their units that is necessary in combat situations if Servicemembers know there is a powerful outside legal authority that can reach in and undermine leadership at any time. The elimination of commander control of the military system only in peacetime—and domestically—may come to mind as a compromise, but it also has issues. Fighting forces seek to train and operate at all times within the command structures that will be in place during combat situations. This helps to eliminate confusion and second-guessing when it matters most. It also helps to facilitate efficiency and field the most powerful fighting force for the defense and projection of national interests.

Irrespective of the current criticisms of the military justice system, it has developed by leaps and bounds over the last few decades and has come to resemble civilian systems. Modifications to it are therefore not likely to have much impact on overall sexual assault numbers. The keys to this are stopping these crimes in the first place and giving victims the initial assistance they need to recover and assess their legal options going forward. Therein lies the rub. If there is a trial involving sexual assault charges, the military has already failed. Someone has suffered.

Endgame: The Military Petri Dish

With this in mind, it is time the true potential of the military's sexual assault crisis is realized. While it is a tragedy of grand proportions, the attention and resources being directed toward this problem intermix with the military's centralized command structure to create the opportunity for incredible change. The military has consistently operated as somewhat of a petri dish for societal reform. It is a tightly controlled subsection of the Nation able to respond quickly to and implement change (though this potential is not always realized). The best example is desegregation.[35] While the Civil Rights movement was just gaining steam, the Armed Forces, under the direction of executive orders, had already fully integrated their units by 1954. They also established rights equivalent to the Miranda rights in the civilian system. While the Services have not always been at the forefront of change, their ranks have offered a staging ground for important societal developments. The military has helped push the gender equality discussion through women excelling in traditionally male positions and facing challenges in the Services.[36] It has highlighted discrimination based on sexual orientation through the implementation and repeal of "Don't Ask, Don't Tell" and actions prior to that policy.[37] And it is confronting the sustainability of current retirement benefit programs.[38] How the military has handled these situations greatly influences how society at large responds. Likewise, how it handles the problem of sexual assault will have great influence.

DOD has a massive budget and infrastructure and therefore has the resources to implement many possibly radical changes in seeking to prevent sexual assault and care for victims, as evidenced by the programs it has already enacted. The Pentagon is also less susceptible to political whims than civilian legal systems in the manner in which it tackles this problem. Military leaders are more able to implement programs without the fear that failure will cost them the next election. Especially in the current climate, they are highly influenced to try almost anything to stem the tide of sexual assault in their commands.

This situation presents a massive opportunity for broader society. The military is now fertile terrain for groundbreaking research and approaches aimed at addressing sexual assault. This is the perfect chance for societal actors to engage this issue without risking their own necks and resources. Civilian victims services, universities, law enforcement agencies, and other actors that combat sexual assault and are equally interested in solutions should team up with the military, share data, and propose avenues to pursue. The results of these efforts will be useful to all parties and will allow civilian actors to avoid programs that have proved unsuccessful and push for those that are effective.

Likewise, the military should be reaching out to these entities and anyone else it can, including foreign armed forces. It is discouraging that top military officers have acknowledged their ignorance of the sexual assault programs being undertaken abroad.[39]

President Barack Obama stated, "We have to be determined to stop these crimes because they have no place in the greatest military on Earth."[40] They also have no place in the greatest country on Earth, and the campaign against sexual assault taking place in the military should be viewed as an impetus for broader change. There exists the potential to produce incredible results, allow America to catch up with other developed nations, and perhaps even become an example for protecting people from some of the most societally degrading acts. **JFQ**

Notes

[1] See Karen Parrisch, "Sexual Assault Solutions Include Everyone, Hagel Says," American Forces Press Service, July 1, 2013, available at <www.315aw.afrc.af.mil/news/story.asp?id=123354579>.

[2] Micah Zenko and Amelia Mae Wolf, "Our Military, Ourselves," *Foreign Policy*, May 21, 2013, available at <www.foreignpolicy.com/articles/2013/05/21/our_military_ourselves>.

[3] Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, "Criminal Victimization 2011," October 2011, available at <www.bjs.gov/content/pub/pdf/cv11.pdf>.

[4] Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Division of Violence Prevention, "National Intimate Partner and Sexual Violence Survey, 2010 Summary Report," November 2011, available at <www.cdc.gov/ViolencePrevention/pdf/NISVS_Report2010-a.pdf>.

[5] Department of Defense (DOD), DOD Personnel and Procurement Statistics, "Armed Forces Strength Figures for January 31, 2013," available at <http://siadapp.dmdc.osd.mil/personnel/MILITARY/ms0.pdf>.

[6] Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, "Criminal Victimization 2009," October 2010, available at <www.bjs.gov/content/pub/pdf/cv09.pdf>.

[7] Bonnie S. Fisher, Francis T. Cullen, and Michael G. Turner, "The Sexual Victimization of College Women," Minnesota Center Against Violence and Abuse, 2000, available at <www.mincava.umn.edu/documents/college/college.pdf>.

[8] Medical University of South Carolina, National Crime Victims Research & Treatment Center, *Drug Facilitated, Incapacitated, and Forcible Rape: A National Study*, February 1, 2007, available at <www.ncjrs.gov/pdffiles1/nij/grants/219181.pdf>.

[9] Rosa Brooks, "Is Sexual Assault Really an 'Epidemic'?" *Foreign Policy*, July 10, 2013, available at <www.foreignpolicy.com/articles/2013/07/10/is_sexual_assault_really_an_epidemic?page=full>.

[10] Gordon Lubold, "Are the Chiefs Swimming Upstream on Sexual Assault? 73 Percent of Victims Are Junior Enlisted; Happy Birthday Southcom! Jill Kelley, Suing; What Caused That Cargo Plane to Crash in Kabul in April; and a Bit More," *Foreign Policy*, June 4, 2013, available at <www.foreignpolicy.com/articles/2013/06/04/are_the_chiefs_swimming_upstream_on_sexual_assault_73_percent_of_victims_are_jun>.

[11] DOD, Sexual Assault Prevention and Response (SAPR), *Department of Defense Annual Report on Sexual Assault in the Military: Fiscal Year 2012*, April 15, 2013, available at <www.sapr.mil/public/docs/reports/FY12_DoD_SAPRO_Annual_Report_on_Sexual_Assault-Volume_One.pdf>.

[12] DOD, SAPR, *Department of Defense Annual Report on Sexual Assault in the Military: Fiscal Year 2010*, March 2011, available at <www.sapr.mil/public/docs/reports/DoD_Fiscal_Year_2010_Annual_Report_on_Sexual_Assault_in_the_Military.pdf >.

[13] DOD, SAPR, *Department of Defense Annual Report on Sexual Assault in the Military: Fiscal Year 2011*, April 2012, available at <www.sapr.mil/public/docs/reports/Department_of_Defense_Fiscal_Year_2011_Annual_Report_on_Sexual_Assault_in_the_Military.pdf>.

[14] DOD, SAPR, *Department of Defense Annual Report on Sexual Assault in the Military: Fiscal Year 2009*, March 2010, available at <www.sapr.mil/public/docs/reports/fy09_annual_report.pdf>.

[15] Lindsay L. Rodman, "Fostering Constructive Dialogue on Military Sexual Assault," *Joint Force Quarterly* 69 (2nd Quarter, April 2013), available at <http://ndupress.ndu.edu/Portals/68/Documents/jfq/jfq-69.pdf>.

[16] See Sexual Assault Awareness and Prevention, available at <www.defense.gov/home/features/2012/0912_sexual-assault/>.

[17] See Reporting Options, Restricted Reporting, available at <www.myduty.mil/index.php/reporting-options/restricted-reporting>.

[18] *DOD Annual Report on Sexual Assault in the Military: Fiscal Year 2010*.

[19] See DOD Instruction 6495.02, para. 4.f and enclosure 6, March 28, 2013, available at <www.dtic.mil/whs/directives/corres/pdf/649502p.pdf>.

[20] See "D-SAACP," Sexual Assault Advocate Certification Program, available at <www.sapr.mil/index.php/d-saacp>.

[21] See "About," Sexual Assault Prevention and Response Office, available at <www.sapr.mil/index.php/about>.

[22] See "SAAM," Sexual Assault Awareness Month, available at <www.sapr.mil/index.php/saam>.

[23] See David Salanitri, "AF Provides Special Counsel to Sexual Assault Survivors," Air Force Public Affairs, May 24, 2013, available at <www.af.mil/news/story.asp?id=123350021>.

[24] See DOD, "Department of Defense Press Briefing with Secretary Hagel and Maj. Gen. Patton on the Department of Defense Sexual Assault Prevention and Response Strategy from the Pentagon," News Transcript, May 7, 2013, available at <www.defense.gov/transcripts/transcript.aspx?transcriptid=5233>.

[25] See Steve Liewer, "Air Force Sex Crimes Victims Get Legal Boost," *Omaha World-Herald*, July 7, 2013, available at <www.omaha.com/article/20130707/NEWS/707079922>.

[26] See Kristin Davis, "Special Victims Counsel 'A Huge Step Forward,'" *Air Force Times*, May 22, 2013, available at <www.airforcetimes.com/article/20130522/NEWS/305220008/Special-victims-counsel-huge-step-forward->.

[27] Sexual Assault Awareness and Prevention, available at <www.defense.gov/home/features/2012/0912_sexual-assault/>.

[28] Marisa Taylor and Chris Adams, "Military's Newly Aggressive Rape Prosecution Has Pitfalls," *McClatchy Newspapers*, November 28, 2011, available at <www.mcclatchydc.com/2011/11/28/131523/militarys-newly-aggressive-rape.html>.

[29] Nancy Montgomery, "AF Strengthens Sex Assault Prosecutions," *Stars and Stripes*, January 10, 2013, available at <www.military.com/daily-news/2013/01/10/af-strengthens-sex-assault-prosecutions.html>.

[30] Sexual Assault Awareness and Prevention, available at <www.defense.gov/home/features/2012/0912_sexual-assault/>.

[31] Matt Collins, "Rape and the Ethics of Adultery, or How the Military Hides Its Rape Problem," *Foreign Policy*, August 28, 2012, available at <http://ricks.foreignpolicy.com/posts/2012/08/28/rape_and_the_ethics_of_adultery_or_how_the_military_hides_its_rape_problem_0>.

[32] See Megan R. Wilson, "Gillibrand: 'Culture Change' Needed to End Military Sexual Assaults," *The Hill*, June 9, 2013, available at <http://thehill.com/video/senate/304377-gillibrand-military-sexual-assaults-a-crisis>.

[33] See Donna Cassata, "Claire McCaskill Blocks Air Force Officer Susan Helms' Nomination Over Military Sexual Assault," *The Huffington Post*, June 7, 2013, available at <www.huffingtonpost.com/2013/06/07/claire-mccaskill-susan-helms_n_3402854.html>.

[34] See Parker v. Levy, 417 U.S. 733, 744, 758 (1974), available at <http://supreme.justia.com/cases/federal/us/417/733/case.html>.

[35] See DOD, "Military Integration Timeline," available at <www.defense.gov/home/features/2008/0708_integration/military_integration_timeline.pdf>.

[36] See "Highlights in the History of Military Women," Women in Military Service for America Memorial Foundation, Inc., available at <www.womensmemorial.org/Education/timeline.html>.

[37] See DOD, SAPR, Human Resources Strategic Assessment Program, "2012 Workplace and Gender Relations Survey of Active Duty Members," March 15, 2013, available at <www.sapr.mil/public/docs/research/2012_Workplace_and_Gender_Relations_Survey_of_Active_Duty_Members-Survey_Note_and_Briefing.pdf>.

[38] See James Joyner, "Military Retirement Overhaul," *Outside the Beltway*, July 25, 2011, available at <www.outsidethebeltway.com/military-retirement-overhaul/>.

[39] See Alex Seitz-Wald, "Answer to Military's Sexual Assault Problem may be Overseas," *Salon*, June 5, 2013, available at <www.salon.com/2013/06/05/answer_to_militarys_sexual_assault_problem_may_be_overseas/>.

[40] Tom Watkins, "Hagel: Scourge of Sexual Assault 'Must be Stamped Out,'" *CNN.com*, May 25, 2013, available at <www.cnn.com/2013/05/25/politics/new-york-hagel-west-point>.

Marine fires M107 special application scope rifle on USS *San Diego* as part of live-fire familiarization training during Composite Training Unit Exercise off coast of southern California (U.S. Marine Corps/Rome M. Lazarus)

Targeted Killing of Terrorists

By Nicholas Rostow

Dr. Nicholas Rostow is Distinguished Research Professor and Senior Director in the Center for Strategic Research, Institute for National Strategic Studies, at the National Defense University. He is also a Senior Research Scholar at the Yale Law School.

The struggle against terrorism—more specifically, the effort to prevent terrorist attacks—has raised difficult legal and policy issues including so-called targeted killing, or the killing of specific individuals because of their involvement in terrorist organizations and operations. As we shall see, this form of targeted killing involves domestic and international legal authorities and policy and prudential issues. A substantial number of countries confronting what they consider to be terrorist attacks and threats engage in targeted killings. Each has to resolve questions about authorities and prudence because, while terrorists are always criminals, they also may be lawful military targets. The dual character of terrorists leads to the conclusion that, as a matter of policy, a state should weigh the totality of the circumstances and conclude that no other action is reasonable to prevent a terrorist attack before engaging in the targeted killing. Careful analysis in advance may preempt problems later.

This essay addresses the question principally from the American perspective. It examines the authority, as a matter of U.S. law, for the United States to kill individual terrorists and the international legal context for such operations. The operating premise is that the targeted killing of al Qaeda leaders is emblematic of the subject under review in contrast to such domestic police action against terrorists as the arrest, prosecution, conviction, and execution of Timothy McVeigh, who was principally responsible for the bombing of the Federal office building in Oklahoma City in April 1995.[1] The essay concludes that authority in domestic and international law exists for such operations and that, as a policy choice, the United States would do well to apply the Geneva Conventions of 1949 in the conflict with terrorists whether or not it is legally required. In any event, policymakers need to weigh the consequences of targeted killing operations because, like all military operations, unforeseen results—positive and negative—are likely.

Authorities for Targeted Killing

As spokesmen for the U.S. Government have emphasized,[2] America's use of force against terrorists takes place in the context of "armed conflict." For practical and legal reasons they distinguish the conflict with al Qaeda and similar organizations from counterterrorism law enforcement at home or in other countries, which principally involves the police. This delimitation is commonsensical. It is also important. One does not want the U.S. Government engaging in military operations on American soil absent extraordinary circumstances. Authority for using the military instrument abroad against terrorists in the context of "armed conflict" comes from the Constitution and statute, and the use of armed force needs to comply with the international law of armed conflict (also known as the laws of war or international humanitarian law).

More than 200 years of practice have confirmed that the President has the responsibility to direct the Armed Forces to defend the country. The President accordingly had constitutional authority to order counterattacks by U.S. forces against terrorists who had engaged in attacks against the United States and its citizens even before September 11, 2001.

Presidents George W. Bush and Barack Obama have not had to rely on their constitutional authority alone. After September 11, 2001, Congress gave the President broad authority

to use all necessary and appropriate force against those nations, organizations, or persons he determines planned, authorized, committed, or aided the terrorist attacks that occurred on September 11, 2001, or harbored such organizations or persons, in order to prevent any future acts of international terrorism against the United States by such nations, organizations, or persons.[3]

This statute provided explicit authority for U.S. military operations in Afghanistan and against those the President determined were involved in the September 11 attacks. The words "necessary and appropriate" limit the use of the military instrument to those situations where police action, by the United States or the state in which the terrorist is found, is impossible. Had the perpetrators resembled Timothy McVeigh and been subject to arrest inside the United States, the use of the Armed Forces would have been neither necessary nor appropriate. One therefore should not expect remotely piloted aircraft attacks in London. In states unable or unwilling to take action to prevent their territories from being used by terrorists, the legal and practical situation is different. A use of force, as against Osama bin Laden, may be lawful as well as the only practicable course, especially when a host government withholds its cooperation. On balance, it became more important to the United States and to the international multilateral effort to suppress terrorism to capture or kill bin Laden than to be sensitive to a breach of Pakistan's territorial integrity and *amour propre*.

The conduct of military operations pursuant to these constitutional and statutory authorities has to conform to U.S. legal obligations regarding armed conflict. In the main, the rules for American use of force are contained in the Geneva Conventions of 1949 and subsequent treaties to which the Nation is a party or, as in the case of some articles of the 1977 Protocols Additional to the 1949 Geneva Conventions, which Washington regards as accurate statements of the customary international law of armed conflict. In 2010 the State Department Legal Adviser stated that the United States applied "law of war principles," including:

First, the principle of distinction, which requires that attacks be limited to military objectives and that civilians or civilian objects shall not be the subject of the attack; and

Second, the principle of proportionality, which prohibits attacks that may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, that would be excessive in relation to the concrete and direct military advantage anticipated.[4]

In other words, if the target is lawful under the laws of armed conflict, a state may use weapons, including weapons delivered by remotely piloted, unmanned aerial vehicles, against such targets. In this sense, targeted killing is high technology sniping.

This analysis rests on the premise that the United States is in an armed conflict with al Qaeda as a result of the attacks of September 11, 2001, a conclusion that itself reflects a process of analysis. Under longstanding principles of international law, a state bears responsibility for uses of force from its territory about which it knew or should have known. That responsibility includes a duty to prevent and, if prevention proves impossible, suppress. When a state is unable or unwilling to discharge such international legal obligations, the victim state presumptively has rights of self-defense. Thus, when Afghanistan was the base from which the 9/11 attacks were conducted and when Afghanistan was unwilling or unable to take action against the perpetrators, the United States enjoyed the right to use force in self-defense to attack those actors in Afghanistan. This legal analysis provides the basis for the U.S. use of force in Afghanistan commencing in 2001.

Laws of War and Targeted Killing

Confusion has bedeviled discussion of the conflict between the United States and al Qaeda. Assuming that al Qaeda is a true nonstate actor, governments have had to decide whether the United States is in international armed conflict with al Qaeda and, if so, what rules apply. These questions are rooted in the language of the four Geneva Conventions of 1949.

By their terms, the Conventions apply to conflicts among the "High Contracting Parties" or to "armed conflict[s] not of an international character occurring in the territory of one of the High Contracting Parties."[5] This language means, respectively, conflicts between or among states and civil wars.[6] Based on that language, the U.S. Supreme Court determined that the conflict with al Qaeda was a global,

U.S. Special Forces Soldiers attached to Combined Joint Special Operations Task Force–Afghanistan prepare to enter and clear room while conducting close-quarter battle drill at shoot house in Kabul Province (U.S. Army/Connor Mendez)

noninternational armed conflict to which Common Article 3 of the Geneva Conventions of 1949 applied because that seemed to be the only part of the Conventions that could apply to nonstate actors.[7] While the effort to avoid placing alleged terrorists in a legal no-man's land is laudable, the Supreme Court's effort in this regard involved intellectual incoherence. As it must, the executive branch adheres to the Supreme Court decision. At the same time, without violating that decision, the U.S. Government may follow an intellectually coherent and simpler approach than the Supreme Court's by following the Geneva Convention lead.[8]

The Geneva Convention Approach

The Geneva Conventions, binding as they are on all states, provide a useful guide to governments. They do so whether one uses military or law enforcement instruments against terrorists. If a government treats terrorists outside its jurisdiction or the jurisdiction of a state capable of using the criminal law against terrorists as subject to the Geneva Conventions, then its course is clear. If it captures a terrorist fighter, that fighter may be prosecuted for violations of the Geneva Conventions and then returned to prisoner of war status once a sentence, if any, is served. Prisoner of war status ends with the end of the conflict. Today it is difficult to foresee an end to the U.S. conflict with al Qaeda notwithstanding the deaths of so many al Qaeda leaders and followers.

Treating terrorists as if they are not combatants and are not entitled to prisoner of war status may be legally correct; it nonetheless puts a government in a policy and legal straitjacket. Terrorists inevitably fail the requirements set forth in the third Geneva Convention to wear a uniform, carry weapons openly, obey the laws of war, and operate in an organized fashion under a commander responsible for his or her subordinates, with rigorous systems of command and control, in order to enjoy the privileged status of combatant and prisoner of war upon capture.[9] The terrorists' failure in these respects does not make it easier to deal with detainees, as the American experience during the past 11 years demonstrates. As a result, a new approach is needed. That approach should be rooted in the law and in common sense. The Geneva Conventions provide both.

For the United States, acting as if terrorists captured in battlefield conditions are combatants and therefore prisoners of war would have a number of benefits. First, it would limit challenges to the legal status of detainees because they would not be held in what might appear to be legal limbo. As a result, whether they were held in prisoner of war facilities within the United States or

RQ-4 Global Hawk from Andersen Air Force Base, Guam, lands at Misawa Air Base, Japan (U.S. Air Force/Nathan Lipscomb)

at Guantánamo Bay would not matter in legal terms. Detainees would not acquire more rights by being held as prisoners of war within the United States than they do in Guantánamo Bay, and the administration should be able to close the prison facilities there without increasing its legal exposure. Second, it would clarify the status of prisoners for prison guards by making clear that the prisoners were not in a penitentiary status unless convicted of a crime. Third, it could improve the international reputation of the United States, which stands sullied as a result of allegations of torture and questions about its authority to hold alleged terrorists indefinitely, even those who might be acquitted at trial.

Since 9/11, the United States has traveled far in its quest to diminish, if not eliminate, the risk of terrorist attack. In the process it has revealed much about its willingness to engage in targeted killing and the conclusion that this tactic is useful and "wise" as well as legal.[10] The argument for wisdom is that technology permits such a high degree of accuracy that collateral damage—the killing of bystanders—and the risk to American lives are reduced. The third test of wisdom is an act's consequences. The wise strategist will weigh consequences of chosen tactics. For example, the negative consequences of the frequent U.S. use of remotely piloted aircraft to attack al Qaeda in Pakistan in 2011 led to an intense "Pakistani animus toward unilateral U.S. action [with] huge implications for America's counterterrorism aspirations in the country."[11] To avoid negative consequences does not require inaction, but rather an effort at forethought and foresight. It is something that cannot be guaranteed even if one abides by the law. So far the United States has followed U.S. and international law by engaging in targeted killing as a combat tactic against military targets. Keeping to this line will be clarifying and simplifying even though one may argue that the law does not require treating terrorists as if they were military targets. Lawfulness by itself does not guarantee wisdom. But it is a good starting place. **JFQ**

Notes

[*] Courtney Lang, class of 2015 at the Georgetown University School of Foreign Service, ably assisted in the preparation of this essay for publication.

[1] See generally, Nicholas Rostow, "The Laws of War and the Killing of Suspected Terrorists: False Starts, Rabbit Holes, and Dead Ends," *Rutgers Law Review* 63, no. 4, Summer 2011, 1215.

[2] See Harold Hongju Koh, "The Obama Administration and International Law," Annual Meeting of the American Society of International Law, Washington, DC, March 25, 2010; Eric Holder, Remarks at the Northwestern University School of Law, March 5, 2012.

[3] Joint Resolution, "Authorization for Use of Military Force," September 18, 2001, P.L. 107-40 [S.J. Res. 23].

[4] Koh.

[5] Common Article 3 to the Four Geneva Conventions of August 12, 1949, reprinted in *Documents on the Laws of War*, ed. Adam Roberts and Richard Guelff, (New York: Oxford University Press, 245, 2000).

[6] Rostow, 1231 (relying on Dinstein).

[7] Hamdan v. Rumsfeld, 548 U.S. 557, 630 (2006).

[8] See Rostow, 1231–1232.

[9] Geneva Convention Relative to the Treatment of Prisoners of War, August 12, 1949, in *Documents on the Laws of War*, 246 (Art. 4A(2)).

[10] Compare Chris Toensing and Ian Urbina, "Israel, the US and 'Targeted Killings,'" *Middle East Report Online*, Middle East Research and Information Project, February 17, 2003, to John O. Brennan, transcript, "The Ethics and Efficacy of the President's Counterterrorism Strategy," Woodrow Wilson International Center for Scholars, April 30, 2012.

[11] Thomas F. Lynch III, *The 80 Percent Solution: The Strategic Defeat of bin Laden's al-Qaeda and Implications for South Asian Security*, National Security Studies Program Policy Paper (Washington, DC: New America Foundation, February 2012), 15.

Chief of warfighting integration and chief information officer for Office of Secretary of Air Force discusses cyber security during seminar at Barksdale Air Force Base (U.S. Air Force/Chad Warren)

Cyber Power in 21st-Century Joint Warfare

By E. Lincoln Bonner III

For, in war, it is by compelling mistakes that the scales are most often turned.

—B.H. Liddell-Hart
Strategy: The Indirect Approach (1941)

Lieutenant Colonel E. Lincoln Bonner III, USAF, is Director of Operations at the Space Operations Squadron Aerospace Data Facility–Colorado.

In 2008, Russian military forces, supported by cyber attacks, rapidly defeated opposing Georgian forces and seized territory later traded in exchange for Georgia's granting greater autonomy to pro-Russian governments in South Ossetia and Abkhazia. *Cyber power* is the ability to exploit cyberspace to create advantages and influence events, and *cyberspace* is the interde-

pendent and interconnected networks of electronics and the electromagnetic spectrum where information is created, stored, modified, exchanged, and exploited.[1] The 2008 Russia-Georgia war marks the only public incidence of cyber power integrated with traditional kinetic military operations. To date, however, little attention has been paid regarding how to integrate cyber power into conventional military operations. Rather, research has tended to focus on the independent use of cyber power for espionage and as a means of strategic attack to punish and/or compel a state to do one's will.

This article addresses this research gap by focusing on how cyber power can best be integrated into joint warfare to fight and win the Nation's wars. Using the Russia-Georgia war as an illustrative case, this article argues that the principal value of integrating cyber power into a joint military campaign is that it compels the enemy to make mistakes by performing three main warfighting tasks: reconnaissance, superiority, and interdiction. It begins with a description of how cyber power's main warfighting tasks support kinetic operations by degrading/disrupting the enemy decision cycle. The cyber aspects of the Russia-Georgia war are then analyzed to show how pro-Russian forces employed cyber power to degrade the Georgian decision cycle in support of kinetic military operations. Finally, implications for present and future integration of cyber power into joint warfare are discussed.

Reconnaissance, Superiority, and Interdiction

Cyber power has evolved similarly to early airpower and will likely make contributions to joint warfare now and into the foreseeable future, namely to conduct cyber reconnaissance, gain and maintain cyber superiority, and conduct cyber interdiction.

In World War I, the advantages of aerial reconnaissance gave birth to the battle for air superiority. Aerial reconnaissance "warned of any movement or change in the enemy camp, and with few exceptions it foretold the enemy's offensive and helped guarantee that it would fail."[2] As a result, the requirement emerged to gain and maintain air superiority, thereby securing the information advantage flowing from aerial observation. Despite its value to effective land operations, aerial reconnaissance could not directly degrade or defeat enemy operations.

In the same manner, cyber power's military development can trace its roots to reconnaissance. As the recent Mandiant report about Chinese cyber espionage highlights, much of the impetus to develop cyber power arises from the advantage that accrues to the side that can conduct more effective cyber reconnaissance operations.[3] In turn, effective cyber reconnaissance and the information advantage that comes with it depend on possessing at least a degree of cyber superiority. Like airpower, cyber reconnaissance and cyber superiority can make friendly operations more effective, but they cannot directly degrade or defeat enemy operations.

In 1936, 18 years after World War I ended, Sir John Slessor of the Royal Air Force described how airpower could be integrated with land operations to directly and substantially degrade or defeat an adversary's warfighting capability in airpower and armies. Using evidence from British military operations in the Middle East, Slessor deduced that in addition to aerial reconnaissance, airpower's main warfighting tasks in a joint air-land campaign were to gain and maintain air superiority and to interdict enemy land lines of communication and supply. Air superiority continues to provide friendly forces with the ability to exploit airpower for reconnaissance, mobility, and attack without prohibitive enemy interference.[4] Air interdiction destroys or interrupts those elements of an enemy's system of supply or communication for a sufficient time that the degradation will immediately or in due course prove fatal to his continuance of effective operations.[5]

Cyber superiority and cyber interdiction can also be described in terms akin to air superiority and air interdiction. Cyber superiority provides friendly forces with the ability to exploit cyber power for reconnaissance, communication (that is, information mobility), and attack—in addition to orientation (that is, information/computer processing) and command and control—without prohibitive interference by the enemy. Cyber interdiction interrupts, destroys, or otherwise neutralizes electronic information lines of communication and electronic information systems of supply (that is, cyberspace) used by enemy land, sea, air, and space forces for a sufficient length of time that they will immediately or in due course prove fatal to his continuance of effective operations. Unlike today, World War II bombers lacked the precision attack capability to substitute for the lethality of land forces to destroy an enemy army. Hence airpower's primary offensive contribution was air interdiction. Like air interdiction in Slessor's time, cyber interdiction is the principal contribution of cyber attack operations in joint warfare today.

In the air and cyberspace domains, offensive operations to destroy or neutralize the adversary's air and cyber forces are the primary means of establishing superiority within each domain. Cyber reconnaissance, however, plays a much greater role in gaining cyber superiority than aerial reconnaissance plays in establishing air superiority. At the tactical level in cyberspace, the speeds of action and of observation both approach the speed of light. In other words, cyber defenders do not have the benefit of the warning time that observation at the speed of light via radar gives air defenders. Consequently, tactical defenses are unlikely to have sufficient warning to react against a cyber attack and prevent significant negative effects. Tactical defense in cyberspace is more akin to battle damage repair, recovery, and reconstitution than to any analogous effort to parry a physical blow. Effectively defeating cyber attacks thus largely depends on fielding a set of defensive measures that one knows in advance an adversary cannot overcome. That is, the most effective way to achieve cyber superiority is to field cyber defense and cyber attack capabilities that render potential corresponding enemy cyber attacks and defenses impotent a priori. The critical requirement for neutering potential

Marines monitor aircraft and ground troops for information to pass to combat elements, Operation *Javelin Thrust* (U. S. Marine Corps/ Chelsea Flowers)

enemy cyber attacks and defenses without known precedents, and thus the key to cyber superiority, is technical intelligence about enemy cyber attack and defense capabilities, as well as tactics, techniques, and procedures. Although all-source intelligence contributes to developing this foreknowledge, the principal way of gathering the requisite intelligence is cyber reconnaissance. Unlike orders of battle, cyber capabilities only exist in cyberspace and cannot be observed except from within cyberspace. Thus, those who win the cyber reconnaissance competition in peacetime will likely win the battle for cyber superiority in wartime.

To gain and maintain cyber superiority, peacetime cyber reconnaissance operations should prioritize intelligence about enemy cyber reconnaissance and attack capabilities (for example, enemy malicious code development), followed by enemy cyber defense capabilities. With intelligence about these activities, one can develop and field cyber defenses that negate adversary cyber attacks prior to their use as well as develop cyber attack capabilities impervious to enemy cyber defenses. Possessing cyber attack capabilities that are relatively impervious to anticipated defenses is a critical requirement for cyber interdiction. The kinetic corollary to this set of cyber reconnaissance activities might be more commonly described as intelligence preparation of the battlespace. Therefore, it is during the intelligence preparation of cyberspace, which should be constantly ongoing during peacetime, when cyber superiority is won or lost.

Cyber interdiction is made possible by, and complements, cyber superiority. Interdiction in general is a network warfare concept applicable to any domain. An electronic information network is simply a transportation network, but rather than physical supplies, information is the commodity. The objective of any transportation network is to deliver accurate, relevant, and timely supplies (that is, the right stuff to the right place at the right time)—or information in the case of cyberspace.[6] Regardless of whether an interdiction campaign chooses to target a network's capability to deliver supplies with accuracy, relevancy, or timeliness, the objective is the same: to introduce friction and uncertainty into the decision cycle so it becomes increasingly difficult for the enemy to conduct effective operations in comparison to friendly forces. Interdiction is not about the impact of any one attack on an enemy network, but rather the cumulative effects of a stoppage.[7]

A successful interdiction campaign accounts for a network's capacity—how much (flow volume) and how fast (flow rate) supplies can travel through the network to meet user demand. In air interdiction campaigns, air attacks and land operations complement each other to overwhelm the enemy's supply network.

Air attacks destroy, disrupt, or degrade nodes and links in the enemy's land transportation/supply network (for example, rail and roads), reducing its capacity. Simultaneously, land combat operations create demand for a high volume of supplies to flow through the network at a high rate. Land combat operations place timeliness requirements on an enemy's supply network that air interdiction prevents the network from meeting. For example, when combat was at a fever pitch in the phase of the Korean War spanning the Inchon Landing to China's entry, both sides consumed supplies voraciously, demanding a high volume and a high rate flow from their respective networks. However, the North Korean army had to rely on a low capacity rail and road network to meet its tremendous needs. American air interdiction ensured that North Korean forces could never accumulate enough supplies or resources in sufficient time to mount a successful counterattack, and U.S. forces rapidly moved north to the Yalu River. At precisely the time when the enemy needs the most from its supply network, interdiction makes it capable of providing the least.

A cyber interdiction campaign—where cyber interdiction is the destruction, disruption, or degradation of nodes, links, and data in an enemy information network to interrupt it and reduce its capacity—functions similarly to an air interdiction campaign, with one critical exception. Unlike air interdiction, cyber interdiction can make portions of cyberspace inaccessible for other operations such as reconnaissance. Air attacks do not prevent the use of the air domain for mobility and reconnaissance. Because cyberspace is composed of information networks, cyber interdiction, which by definition will disrupt enemy information networks, will probably hinder the ability of cyber reconnaissance to gather intelligence data from targeted networks. As a result, tension exists between cyber interdiction and cyber reconnaissance.

If one anticipates a long conflict, or if use of a specific cyber attack in one conflict would significantly decrease one's cyber advantage in more vital potential contingencies, one should favor the decision advantage created by cyber reconnaissance over cyber interdiction. For example, the United States in World War II, in what it anticipated to be a long conflict, protected the information advantage it gained from breaking German and Japanese encryption rather than taking actions that might compromise this invaluable intelligence source. This critical intelligence advantage allowed U.S. forces to decimate Japanese convoys as well as choose the time and place of battle in a war that lasted more than 3 years.[8] Commanders going forward must weigh the costs and benefits of sacrificing intelligence gained from cyber reconnaissance over the long term against the effects created by cyber interdiction in the near term.

Cyber interdiction compels an enemy to make a mistake. Like the complementary relationship between air interdiction and land operations, high intensity kinetic operations create information demands that can overwhelm an information network whose useful capacity has been reduced by cyber interdiction. To limit the effects of cyber interdiction, an opponent could concentrate his information supplies, which would place them at greater risk for destruction from cyber or kinetic attack. Additionally, cyber attacks that alter, reroute, or delay data present a choice to an opponent. If a cyber attack alters or reroutes an enemy's data, he can act on the information he has, increasing the likelihood that he will make a mistake, or submit additional requests in an attempt to acquire the missing data, thus reducing his network's useful capacity and hindering timely information development. If he chooses the latter, he will compound the effects of cyber attacks that add extraneous data into the network, further impeding timely information development and potentially depriving him of new information altogether. Cyber interdiction thus compromises an enemy's decision cycle by placing him on the horns of a dilemma. Should he yield superiority in decision speed or yield superiority in decision quality? Either way the cumulative effect of yielding decision superiority over time will inevitably lead to mistakes.

Cyber Power in the 2008 Russia-Georgia War

The 2008 Russia-Georgia war helped focus attention on cyber power and its utility in war in a way that previous cyber power uses had not. That conflict's high profile caused it to become the subject of much study, so it is a rich source of information for analyzing the dynamics of cyber power in a joint military campaign.

Following Georgian independence in 1991, secessionists seeking to remain part of Russia seized control of the majority of Abkhazia and portions of South Ossetia before cease-fire agreements were reached in 1992 and 1994.[9] These conflicts remained unresolved and formed the roots for the 5-day war between Russia and Georgia in 2008.[10]

On the surface, cyber power would not appear to be particularly useful in a war with Georgia. Only 7 percent of the citizens used the Internet daily,[11] which might cause one to overlook Georgia's critical cyber vulnerability—more than half of 13 connections to the outside world via the Internet passed through Russia, and most of the Internet traffic to Web sites within Georgia was routed through Turkish or Azerbaijani Internet service providers, many of which were in turn routed through Russia.[12] Georgia's Internet infrastructure suffered from a dearth of internal connections known as Internet exchange points.[13] Consequently, a Georgian user's request for a Georgian Web site would likely be routed through Russia, analogous to having to travel through Mexico to get from Los Angeles to San Francisco.[14] As a result, pro-Russian forces could employ cyber power to affect a large percentage of Georgia's access to, and use of, the portion of cyberspace known as the Internet. Lacking control of the infrastructure required for external or internal Internet use, Georgia could neither disperse network traffic nor cut Internet connectivity from abroad as defensive measures without ceding the cyber advantages of Internet access if the state came under cyber attack.[15]

The Russia-Georgia war officially started on August 7, 2008, after

Georgian military forces responded to alleged Russian provocation with a massive artillery barrage on the town of Tskhinvali in South Ossetia.[16] Moscow seized the opportunity to further solidify South Ossetia's and Abkhazia's independence from Georgia. It immediately deployed troops to South Ossetia and initiated aerial bombing raids on Georgian territory. It also deployed its navy to blockade the Georgian coast and landed marines on the coast of Abkhazia. After Russian mechanized forces and South Ossetian militia defeated the lightly armed Georgian military around Tskhinvali, they invaded Georgian territory uncontested.[17] Georgia was not able to offer even a modicum of additional resistance because of the advantage cyber power created for the Russian forces.[18]

The concentration and advanced preparation of cyber attacks in the war suggest that cyber superiority and cyber interdiction operations against Georgia were the product of cyber reconnaissance and intelligence preparation of cyberspace well in advance of the conflict. The cyber interdiction campaign against Georgia included both Web site defacements and distributed denial of service (DDoS) attacks. The botnet assault was precise in scope and concentration, never exceeding 11 targets, and the same Web sites continued to be attacked throughout the war.[19] Most of the cyber attacks were customized for Georgian targets with at least one Web site defacement prepared more than 2 years prior to the conflict.[20] The cyber attacks were also sophisticated in their targeting. Government and news media Web sites were struck first, helping sow confusion by hindering Georgians and their officials from determining what was actually happening and delaying any international response. In addition to Georgia's two major banks, cyber attacks targeted commercial entities that could have been used to communicate or help coordinate a response to Russian forces writ large and the cyber attack specifically.[21] The concentration of botnet cyber attacks on 11 targets, the years-long cyber attack development, and the sophisticated appreciation of how Georgia would likely use the Internet to operationally respond all indicate that the cyber superiority the pro-Russian cyber forces held over Georgia was the product of excellent preconflict cyber reconnaissance and intelligence preparation of cyberspace.

To assert cyber superiority, pro-Russian cyber forces suppressed Georgia's cyber defenses through diversion and direct attack. Educational institutions devoted to science, technology, and medicine were among the initial 11 botnet cyber targets struck.[22] At the time, Computer Emergency Response Team Georgia (CERT Georgia) was chartered solely to provide cyber security for higher education institutions within the Georgian Research and Educational Networking Association (GRENA).[23] By attacking educational institutions, cyber attackers focused CERT Georgia on its charter mission of protecting GRENA's cyberspace and away from responding to the larger national crisis. By attacking what the opponent must succor—the GRENA—pro-Russian cyber forces used CERT Georgia's natural response against it to divert and suppress the state's best cyber defenses. Also, a popular Georgian Internet hacker forum was among the initial 11 cyber attack targets, impeding some of Georgia's more capable cyber experts from coordinating an organized response.[24] Pro-Russian forces achieved cyber superiority using the method Slessor described to gain command of the air—through disruption, dislocation, and disorganization of the opposing force.

Pro-Russian cyber power maintained cyber superiority throughout the conflict, and as a result Georgia never mounted a successful cyber defense or cyber counterattack. For example, Georgia attempted to maneuver around the cyber attacks by filtering them out based on their origin (that is, their originating Internet protocol [IP] address). However, the cyber attackers' intelligence preparation allowed them to easily defeat this tactic. Cyber attackers routed their assault through foreign servers to mask their real IP addresses and created false IP addresses to spoof Georgia's cyber defense filters.[25] Still, Georgia preserved the use of some government Web sites by moving them to U.S.-based servers.[26] Despite the failure of Georgia's cyber defense, it did attempt at least one major counterattack, but it also failed. Georgia posted cyber attack tools and instructions in Russian-language Internet forums to deceive pro-Russian cyber forces into unwittingly attacking Russian Web sites instead of Georgian sites.[27] This Georgian counterattack appears to have had a negligible effect on the Russian Web sites targeted.[28] Overall, the cyber defense efforts were too little too late.

With cyber superiority in hand, pro-Russian forces used cyber interdiction to choke Georgian communications by leveraging the generic properties of transportation networks. After the first wave of botnet cyber attacks on the initial 11 targets, an ad hoc cyber militia joined the assault. Cyber attack tools and a list of suggested targets were posted on Web sites for Russian supporters to launch their own strikes. The instructions were simple enough for people with limited computer skills to follow. This ad hoc cyber militia was so effective that it shut down or defaced 43 Web sites beyond the 11 original botnet targets.[29] In total, 54 Georgian Web sites related to communications, finance, and government were struck, and Georgians could not access these sites for information or instructions.[30] The cyber attacks thus denied Georgian forces access to a key portion of their information network, the Internet, reducing their overall information network's useful capacity.

As a result, the cyber attacks dislocated Georgian data flows, shunting data that normally would have traveled over the Internet into more traditional conduits such as telephone and radio communications. Additionally, land, sea, and air combat operations created a dramatic spike in the data volume and data rate demands on Georgia's overall information network. For example, in the town of Gori, government and news Web sites were disabled with DDoS attacks just prior to a Russian air attack, which would predictably drive information demands up.[31] A subsequent spike in information communication demands combined with the dislocation of Internet communications to more traditional

Marine F/A-18 Hornets escort F-35 Lightning II to Eglin Air Force Base, Florida (U.S. Air Force/Joely Santiago)

forms—such as cell and land phones—appear to have created a bottleneck.

Georgians were trying to transmit more data at a higher rate than the useful capacity of their information network could accommodate because a large proportion was being consumed by cyber attacks injecting extraneous data into the network. The cyber attacks effectively jammed Georgia's overall information network during the early stages of the war when rapid and organized action by Georgian defenses, cyber and kinetic, could have had the greatest impact.[32] Cyber interdiction created a Russian military advantage at the operational and tactical levels by hindering the Georgian military's ability to organize and conduct effective operations to thwart kinetic Russian military operations. Cyber interdiction created conditions such that Georgian forces could not help but to act mistakenly.

Furthermore, cyber interdiction likely multiplied the effectiveness of cyber attacks conducted to achieve cyber superiority by interfering with CERT Georgia's ability to gain situational awareness and orient itself to more effectively respond. Slessor describes the problem of air superiority as "how to deprive the enemy the ability to interfere effectively by the use of his own air forces."[33] Because all Georgian information communications were essentially jammed by the cyber interdiction attacks, CERT Georgia would have had an extremely difficult time simply gathering enough data to understand the cyber attacks' effects, much less mitigate them. By jamming all Georgian communications, cyber interdiction not only interrupted Georgia's traditional military response but also likely stifled Georgia's cyber defenses, prolonging pro-Russian cyber superiority.

In that war, cyber attacks for cyber superiority and cyber interdiction were mutually reinforcing. The result was a situation where Georgian communications—its system of information supply—were gummed up, preventing timely delivery of data and commands to Georgian forces. The Georgians had to choose whether to yield superiority in decision speed or decision quality. The effect with either option was an unqualified Russian military advantage that Georgia could not overcome.

Implications

As in the early days of airpower, cyber power today is critical to victory, but it probably cannot win wars alone if for no other reason than its inability to create much violence, although this shortcoming will likely fade in the future. Consequently, it is imperative to understand how best to employ cyber power in

concert with land-, sea-, and airpower. Airpower theory suggests two principles to guide cyber power strategy at the operational level: securing the enemy's freedom of action, and confronting him with a choice between at least two bad options. Cyber superiority satisfies the first principle, while cyber interdiction satisfies the second. The example of the 2008 Russia-Georgia war demonstrates the truth of these principles, but how should one go about gaining and maintaining cyber superiority and conducting cyber interdiction?

With securing cyber superiority being the first priority for military cyber power, initially focusing on neutralizing the adversary's capability to prohibitively interfere with friendly operations via cyberspace seems most logical. Consequently, the enemy's cyber attack, cyber reconnaissance, and cyber defense capabilities should be among the highest priority targets for cyber reconnaissance and all-source intelligence preparation of cyberspace, as well as among the highest priority targets for suppression or destruction (via cyber or kinetic attack) once hostilities begin. Second, cyber attacks directed at those portions of cyberspace irrelevant to the war but which an opponent must succor, such as the cyber attack on the GRENA that diverted CERT Georgia from the larger conflict, are valuable in that they focus the enemy's cyber defense forces away from decisive points. Third, cyber attacks should be used to interdict data required by enemy cyber repair, recovery, and quick reaction defense forces to disrupt the adversary's ability to effectively parry cyber strikes. Together, these actions should neutralize, divert, and disorganize an opponent's cyber power to gain and maintain cyber superiority.

Cyber interdiction targets are the next most important cyber objectives in joint military operations, first at the operational level and then the tactical and strategic levels. At the operational level, analogous to the rail marshaling yards that were the primary air interdiction targets of World War II, data marshaling yards (also known as data fusion centers) are the logical focal points for cyber interdiction. Data fusion centers are few in number compared to the combat systems they support (for example, fighters, tanks, and submarines), and they are the nodes where raw materials (data) are marshaled and transformed into information, a coherent understanding of the situation to be shared across military forces. Data fusion centers are centers of gravity in cyberspace because they are where orientation happens. Fusion centers at the operational level include enemy command and control nodes and intelligence, surveillance, and reconnaissance processing, exploitation, and dissemination nodes. By destroying, degrading, or neutralizing these data marshaling yards, cyber interdiction caps an adversary's operational effectiveness by limiting his ability to orient and concentrate effects in time and/or space. Regardless of an enemy's camouflage, concealment, and deception capability to foil kinetic strikes, data fusion centers must advertise their location in cyberspace (for example, IP address) to some degree to receive data and distribute information. Data fusion centers are almost certain to be vulnerable to cyber attack because their utility heavily depends on their connectivity—the power of a network grows exponentially with the number of users.[34] If these nodes are not widely connected, they are irrelevant to the enemy's warfighting effort and can be ignored. Degrading data fusion capabilities creates greater uncertainty at the operational level and compels an adversary to rely more on his ability to adapt at the tactical level. In turn, an enemy's ability to adapt at the tactical level depends on the effectiveness of his tactical network and communication/data links. Thus, cyber interdiction at the operational level magnifies the significance and impact of cyber interdiction and electronic attacks to disrupt data links at the tactical level.

An opponent's tactical data links are the next most important cyber interdiction target set after data fusion centers. At the tactical level, each node (for example, fighter plane, platoon, and destroyer) on the tactical network has some level of data fusion capability, so information is rarely concentrated to the point that attacking those nodes in cyberspace will have widespread effects. However, tactical data is so perishable that even temporary disruptions to the data link network can have significant negative impacts on the ability of each tactical unit to derive information before the data are no longer a valid basis for decisions. As a result, disrupting tactical network data links, not disabling nodes, is the appropriate objective of cyber interdiction at the tactical level. Interrupting these links can cause brief but meaningful delays and misperceptions in an opponent's decision cycle to create or magnify a "first look-first shot-first kill" tactical advantage. By focusing military cyber power on gaining and maintaining cyber superiority and cyber interdiction at the operational and tactical levels, joint forces can maximize their capabilities and gain a significant decision advantage difficult for an opposing force to overcome.

In joint warfare, it is the air campaign that can benefit most from the effects of cyber superiority and cyber interdiction against enemy data fusion centers and tactical data links. Although cyber power supports land and sea operations, the air campaign is typically the leading effort in joint warfare. Beginning with World War II, airpower has formed the vanguard of every U.S. military operation whether based on land or sea. Additionally, the ability of modern air forces to conduct parallel warfare in the style first used during the 1991 Persian Gulf War critically depends on the exploitation of cyber power for situational awareness, communication, and reconnaissance. Furthermore, enemy capabilities to defeat stealth aircraft have at their heart data fusion to overcome stealth's ability to hide from air defense radars. Cyber power puts the *integrated* in integrated air defense. With cyber power knitting air defense sensors and shooters together, an opponent could generate an airspace picture with fewer weaknesses. However, without a data network to fuse multiple sensors, surface-to-air missile batteries become individual defenders in a one-on-one engagement, a scenario that stealth aircraft have proved they can dominate since 1991. Cyber interdiction applied in

support of air forces can dramatically ease the dangerous task given to air forces—to penetrate the teeth of an enemy's defenses at the outset when the defenses are most lethal. The price of air warfare without a cyber advantage is steep. The last time U.S. airpower fought through an enemy air defense without the benefit of cyber superiority in World War II, American aircrews had a lower probability of survival than Marines fighting in the Pacific.[35] In addition, air operations can unfold much more rapidly than land or sea operations. Surface forces move at tens of miles per hour compared to air forces, which move at hundreds of miles per hour. Land and sea forces—much like the foot soldiers of World War I who were too slow to convert a breakthrough into a breakout—will in all likelihood be too slow to exploit the fleeting advantages created by cyber interdiction as effectively as air forces.

Conclusion

Cyber power is critically important in joint warfare. Military cyberspace operations should have as their priority the attainment and maintenance of cyber superiority and cyber interdiction in support of kinetic operations with a focus on supporting the air campaign. Additionally, operations to gain and maintain cyber superiority should concentrate on neutralizing enemy cyber attack and cyber reconnaissance capabilities, followed by suppressing enemy cyber defenses. Cyber interdiction attack operations should focus on the cyber equivalent of rail marshaling yards—data fusion centers—and tactical data links. Together, cyberspace superiority and cyber interdiction yield a powerful decisionmaking advantage in joint warfare, the cumulative effect of which is to compel an enemy to make mistakes that will likely prove fatal in due course. **JFQ**

Notes

[1] Daniel T. Kuehl, "From Cyberspace to Cyber Power: Defining the Problem," in *Cyberpower and National Security*, ed. Franklin D. Kramer, Stuart H. Starr, and Larry Wentz (Washington, DC: NDU Press/Potomac Books, Inc., 2009); Joint Publication (JP) 1-02, *DOD Dictionary of Military and Associated Terms* (Washington, DC: The Joint Staff, November 8, 2010, as amended through October 15, 2011), 92.

[2] Lee Kennett, *The First Air War: 1914–1918* (New York: The Free Press, 1991), 220.

[3] Mandiant, *APT 1: Exposing One of China's Cyber Espionage Units*, available at <http://intelreport.mandiant.com/Mandiant_APT1_Report.pdf>.

[4] JP 1-02, 16.

[5] John C. Slessor, *Air Power and Armies* (Tuscaloosa: The University of Alabama Press, 2009), 16–17.

[6] David S. Alberts, John J. Garstka, and Frederick P. Stein, *Network Centric Warfare: Developing and Leveraging Information Superiority*, 2nd ed., rev. (Washington, DC: DOD C4ISR Cooperative Research Program, 1999), 32.

[7] Slessor, 122–123.

[8] Thomas E. Griffith, Jr., *MacArthur's Airman: General George C. Kenney and the War in the Southwest Pacific* (Lawrence: University of Kansas Press, 1998), 244–246.

[9] U.S. Department of State, "Background Note: Georgia," available at <www.state.gov/outofdate/bgn/georgia/index.htm>.

[10] Ibid.

[11] Eneken Tikk et al., *Cyber Attacks Against Georgia: Legal Lessons Identified* (Tallin, Estonia: Cooperative Cyber Defense Centre of Excellence, 2008), 5; Kertu Ruus, "Cyber War I: Estonia Attacked from Russia," *European Affairs* 9, no. 1–2 (Winter/Spring 2008), available at <www.europeaninstitute.org/Winter/Spring-2008/cyber-war-i-estonia-attacked-from-russia.html>.

[12] Tikk et al., 6.

[13] Ben Arnoldy, "Cyberspace: New Frontier in Conflicts," *The Christian Science Monitor*, August 13, 2008, available at <www.csmonitor.com/USA/Military/2008/0813/p01s05-usmi.htm>.

[14] Ibid.

[15] Tikk et al., 6.

[16] David Hollis, "Cyberwar Case Study: Georgia 2008," *Small Wars Journal*, January 6, 2011, 1, available at <www.smallwarsjournal.com/blog/journal/docs-temp/639-hollis.pdf>.

[17] Ibid.

[18] John Bumgarner and Scott Borg, "Overview by the US-CCU of the Cyber Campaign Against Georgia in August of 2008," in *Cyberwar Resources Guide*, Item #138, 2–3, available at <www.registan.net/wp-content/uploads/2009/08/US-CCU-Georgia-Cyber-Campaign-Overview.pdf>.

[19] Ibid.

[20] Ibid., 4–5.

[21] Ibid., 5.

[22] Ibid.

[23] Georgian Research and Educational Networking Association, available at <www.grena.ge/eng/cert.html>; Tikk et al., 14–15.

[24] Greg Keizer, "Russian Hacker 'Militia' Mobilizes to Attack Georgia," *NetworkWorld.com*, August 13, 2008, available at <www.networkworld.com/news/2008/081208-russian-hacker-militia-mobilizes-to.html>; Tikk et al., 12.

[25] Bumgarner and Borg, 7.

[26] Stephen W. Korns and Joshua E. Kastenberg, "Georgia's Cyber Left Hook," *Parameters* 38, no. 4 (2008), 66–67.

[27] Bumgarner and Borg, 7.

[28] Ibid., 7.

[29] Ibid., 4.

[30] John Oltsik, "Russian Cyber Attack on Georgia: Lessons Learned?" *NetworkWorld.com*, August 9, 2009, available at <www.networkworld.com/community/node/44448>; Bumgarner and Borg, 2.

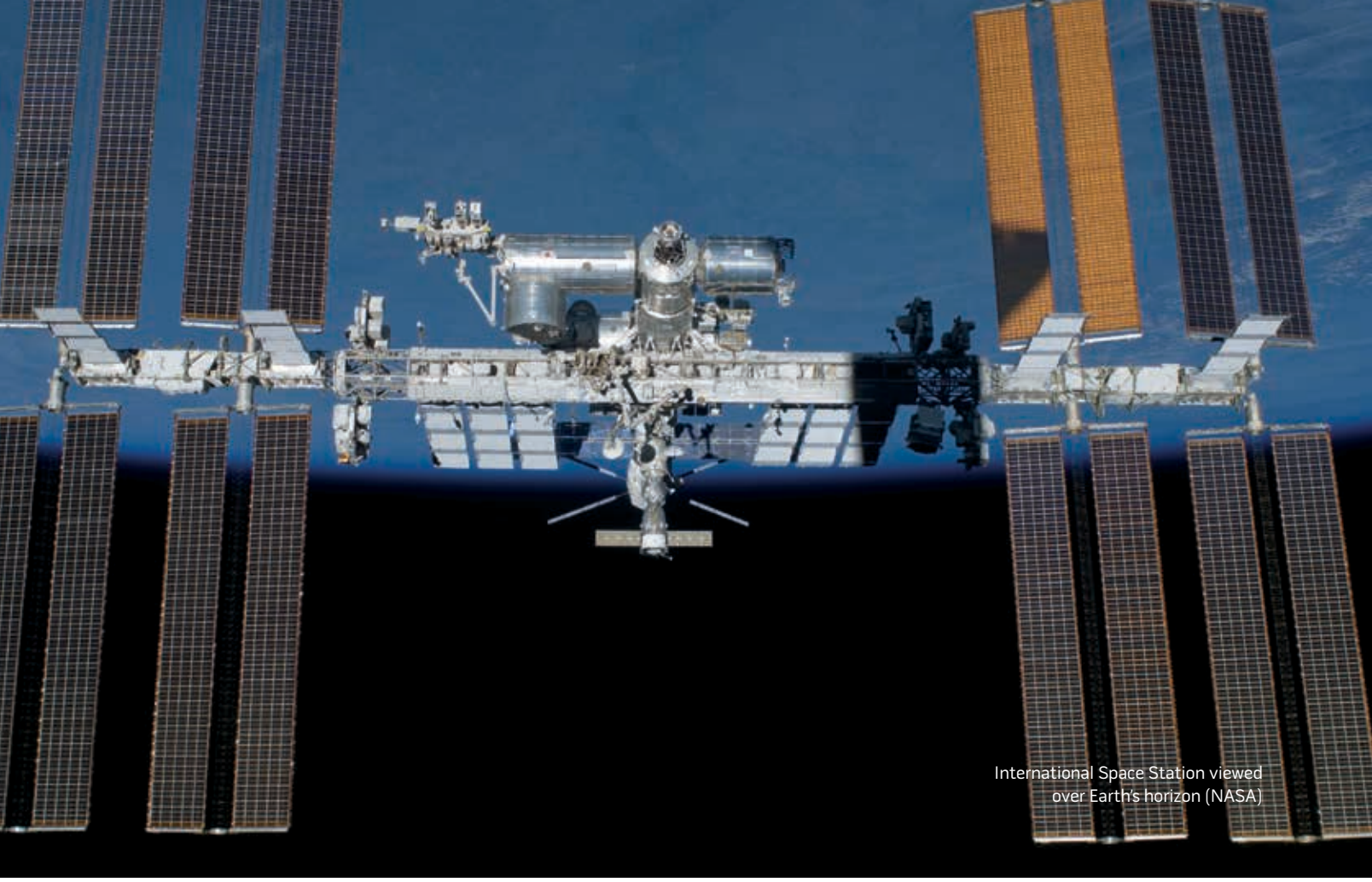
[31] Joseph Menn, "Expert: Cyber-attacks on Georgia Web sites Tied to Mob, Russian Government," *Los Angeles Times*, August 13, 2008, available at <http://latimesblogs.latimes.com/technology/2008/08/experts-debate.html>.

[32] Tikk et al., 6.

[33] Slessor, 31.

[34] Carl Shapiro and Hal R. Varian, *Information Rules: A Strategic Guide to the Network Economy* (Cambridge: Harvard Business School Press, 1999), 184.

[35] W. Murray and A.R. Millett, quoted in Paul Kennedy, *Engineers of Victory: The Problem Solvers Who Turned the Tide in the Second World War* (New York: Random House, 2013), 142.



International Space Station viewed over Earth's horizon (NASA)

Defining and Regulating the Weaponization of Space

By David C. DeFrieze

The creative conquest of space will serve as a wonderful substitute for war.

—James Smith McDonnell
Founder, McDonnell Aircraft Corporation

Space is a contested, congested, and competitive domain. Each year the international community relies ever more on space-based technology for defense, civil, and commercial purposes. Accordingly, the weaponization of space has increasingly become an issue of concern. Space is an international common and is thus easier to protect through international cooperation. Since the beginnings of humanity's venture into space, the international community has made attempts to define and regulate the placement and use of weapons there, but with only limited success.

This article discusses the international interest in controlling the weaponization of space and prior attempts to define and

David C. DeFrieze is an Attorney for the U.S. Army Contracting Command, Aberdeen Proving Ground, Maryland.

regulate it.[1] It then offers an approach to better achieve the international cooperation needed to meet global concerns over space weapons.

Increasing Reliance on Space

The international community has a great interest in maintaining space as a peaceful arena and a secure place to conduct international activity. This has been recognized in treaties and policy statements involving almost all countries with an interest in space. The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (the Outer Space Treaty) sets forth as its opening statement, "The exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind."[2] Such interest in peaceful uses of space is understandable; it is a fragile environment. Physics dictates that satellite orbits and space launches are easy to observe and understand. Like sand castles, spacecraft are difficult to build but easy to destroy. Yet much of the world increasingly relies on space for such peaceful purposes as communications (cell phones, satellite television and radio, banking transactions), transportation (GPS and air traffic control), environmental management, observations relating to resources, weather analysis and predictions, climate change, surveillance of natural disasters, and minimally invasive verification of international treaties. Furthermore, commercial industry currently has a greater presence in space than state actors, and global economic development is tied to the peaceful space capabilities identified.

The peaceful side of military power is also reliant on space. Self-defense against military buildup, invasion, or missile attack is enhanced by surveillance from space. Such visibility of aggressive military actions can serve as a deterrent against aggression by providing targeted nations time to react and verify their concerns in international discussions. Finally, orderly regulation of space weaponization can help avoid a costly and potentially devastating arms race. Space, after all, is a congested and contested domain. If we do not establish order there, the struggle for availability of limited assets may render it a cause for Earth-bound conflicts. For these and other reasons, the international community has been attempting to regulate the use of space, and specifically to define and regulate the weaponization of space.

Treaties and Proposals

The Outer Space Treaty. In 1966, efforts began in the United Nations (UN) to establish an agreement to regulate activity in space resulting in the Outer Space Treaty being signed in 1967. Relevant provisions included the overarching interest stated in Article I that the use of outer space shall be for the benefit and use of all countries; Article III that activities shall be carried out in accordance with international law; Article IV that no nuclear weapons or weapons of mass destruction shall be placed in orbit around the Earth or placed on any celestial body; and Articles VI and VII that responsibility and liability shall be placed for damage caused by an object launched or by its components on Earth.[3] This treaty laid the foundation for international cooperation and further treaties between states.[4] However, the ban on weapons in space was limited to nuclear and other weapons of mass destruction as these types of weapons were of most concern during the Cold War era when the treaty was created.[5] This treaty only addressed weapons that were "placed in orbit" or on a celestial body, and liability was not clearly spelled out. A relevant treaty addressing liabilities for damages caused in space is the Convention on International Liability for Damage Caused by Space Objects.[6]

Chinese and Russian Proposal. In February 2008, China and Russia jointly submitted to the UN Conference on Disarmament a draft Treaty on Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force against Outer Space Objects (PPWT). This proposal attempted to define and prohibit the proliferation of weapons in space and provided definitions of prohibited weapons. The PPWT defines a *weapon in outer space* as "any device placed in outer space, based on any physical principle, which has been specially produced or converted to destroy, damage or disrupt the normal functioning of objects in outer space, on the Earth or in the Earth's atmosphere, or to eliminate a population or components of the biosphere which are important to human existence or inflict damage on them."[7] The United States rejected the PPWT in 2008, but both China and Russia continue to propose this treaty.[8]

UN Resolution. The Prevention of an Arms Race in Outer Space (PAROS) is a UN resolution seeking a ban on the weaponization of space. It was originally proposed in the 1980s from an ad hoc committee of the Conference on Disarmament. The proposal was reintroduced in recent years and is voted on annually, with the United States being the only country to oppose it.[9]

European Union Policy Proposal. In 2008 the European Union proposed a "Space Code of Conduct," a voluntary set of rules regarding matters such as space debris and operation of crafts or satellites in space. It was rejected by most significant space nations including the United States, China, Russia, and India.[10]

The international community has rejected all three of these proposals in one form or another. Specific reasons are difficult to assess since security and political issues cloud the true intent. However, it is conjectured that concerns lie in the unknown aspects of space and the desire of countries not to unduly limit themselves on future access, especially considering emerging technologies and defensive needs. Specific definitions of what physical properties or specific functions an object in outer space contains would be too specific considering all the potential technological developments that might arise.

Problems

If the international community were to rely solely on the definition of

"weapon" as set forth in the Chinese and Russian proposal, other means of destruction could still be used. We cannot outlaw hammers because they could be used as a blunt instrument to kill, nor can we prevent killing by outlawing only items exclusively designed to kill because those bent on killing will still have hammers. We must therefore outlaw the killing and attempts to kill. Similarly, we cannot punish only the possession of articles designed to kill others as people with hammers could still commit the offense. It is widely recognized that any definition of what constitutes a weapon in outer space must be driven in terms of what the object is used to do (that is, its instrumentality) rather than its physical properties. This makes common sense as one could not define a weapon on Earth by physical properties or what specific functions it is capable of. When discussing weapons and aggression, we need to look at the interests to be protected and find a means of enforcing those interests rather than the means chosen to assault those interests.

According to John Pike, "The profession of arms remains the old art of killing people and breaking their things."[11] A man with a hammer can smash the neighbor's property or injure the neighbor's family. In our society, there are civil penalties to compensate the injured person and criminal sanctions to protect society as a whole, including taking away the criminal's freedom. With the commons of space, there is currently no international "police force" armed with a means to enforce. Similarly, like the argument over gun control, if we outlaw all guns, only criminals will have guns and the rest will be helpless against them. It is therefore impossible to protect vital concerns over defense and security by defining and regulating against a "weapon" in space. Instead we need to define and protect the interests to be achieved and the behavior that is considered unacceptable.

Once interests and behaviors are defined, there must be a mechanism to identify who is responsible when poor behavior is observed, and a tribunal or adjudicator to provide professionalism, credibility, and equity to disputes relating to responsibility. Finally, there must be a means of enforcement; if there is no consequence once responsibility for violations is fixed, the behavior of states will not be molded to foster the cooperation and protections desired.

Regulating Interests and Behaviors. The attempts to outlaw certain types of technology in space are not without value. As identified earlier, the original Outer Space Treaty forbids the placement of nuclear weapons and weapons of mass destruction in space. Like certain U.S. gun control laws, the reasonableness of these prohibitions lies in balancing the potential damage with the peaceful purposes these objects can cause. While an argument can be made that these objects are placed in space for "deterrence or defense," any aggressive use would create massive destruction or loss of life, and there would be no time to mitigate or halt the damage.

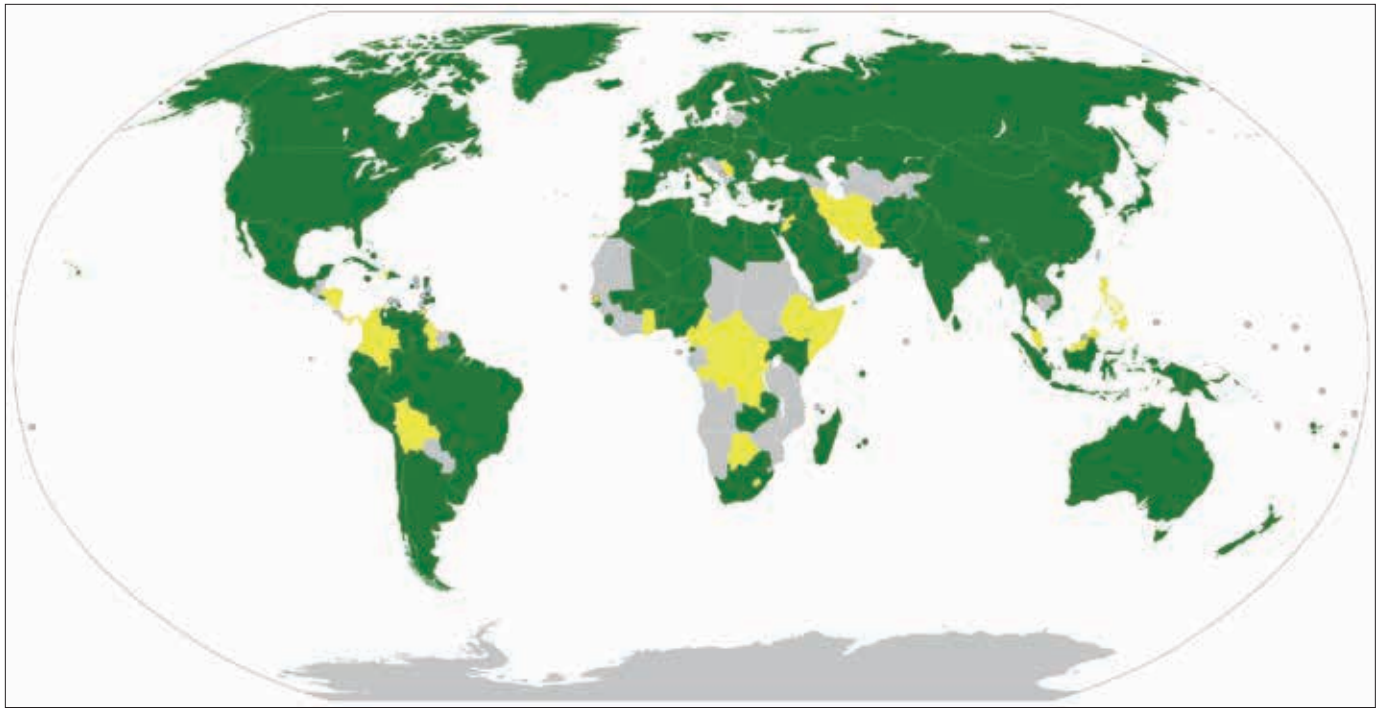
As noted earlier, however, beyond massively destructive technologies, the best approach to controlling the weaponization of space is by regulating and punishing behavior. The Outer Space Treaty initiated this approach by making states liable for damage caused by an object launched.[12] This concept was further developed in the Convention on International Liability for Damage Caused by Space. According to that treaty, the "term 'damage' means loss of life, personal injury or other impairment of health; or loss of or damage to property of States or of persons, natural or juridical, or property of international intergovernmental organizations."[13] This treaty does well at laying out liabilities for signing states: they are absolutely liable for damage caused on the surface of the Earth or to aircraft, and liable for other damage only if due to fault. However, it also exonerates a party if the damage is due to "gross negligence or from an act or omission done with intent to cause damage on the part of a claimant State or of natural or juridical persons it represents."[14] This provision presumably addresses defensive actions taken to counter aggression.[15]

While there may be differing opinions as to whether the specific language is adequate to address all concerns, these two treaties alone provide a foundation for allocating responsibility and liability for unnecessary aggression and improper behavior in space. What is currently lacking is a means to monitor, adjudicate, and enforce these responsibilities.

Monitoring, Adjudication, and Enforcement. According to a distinguished speaker on a space law panel, "International disputes on space matters have most often been settled through diplomatic channels rather than by court decisions. Therefore, judicially determined resolutions to many matters of space law have yet to be developed."[16] While such international matters are certainly difficult and complicated, the ability to monitor and adjudicate violations is not without precedent. The World Trade Organization (WTO) currently serves similar functions relating to international trade. The WTO got its start in 1945 after World War II in an attempt to reduce the tariffs and nationalist/protectionist practices that had permeated the international community since the Great Depression.[17] WTO functions include:

- facilitating negotiations between nations for development and enhancement of international agreements
- implementing and monitoring through ensuring visibility, compliance with regulations, and periodic reviews of policies and practices
- settling disputes as well as interpreting terms and responsibilities of agreements
- building capacity, that is, assisting developing countries with technology, disputes, establishing standards, and increasing their opportunities in the industry.[18]

A similar international organization with expertise and credibility in outer space issues could serve a similar role and go a long way toward helping regulate the behavior of states and nonstate actors in space. The most logical organization to take on this mission is the UN, with a standing committee under the Convention on Disarmament, driven by the legal



Countries that signed and ratified Outer Space Treaty as of January 1, 2013, are indicated in green, countries that only signed in yellow, and those that did not sign in grey

subcommittee of the UN Committee on Peaceful Uses of Outer Space. As noted by Frans von der Dunk, expert and professor of space law at the University of Nebraska, "Despite its shortcomings, [the United Nations] still presents us with the only more or less global organization having considerable experience in such issues."[19] The UN Committee on the Peaceful Uses of Outer Space has 69 members, and all UN nations can join. However, their authorities and responsibilities would need to be bolstered and resourced, and a more concrete means of enforcement would need to be in place. Over time, the capabilities, credibility, and effectiveness of the UN committee would grow, similar to the WTO.

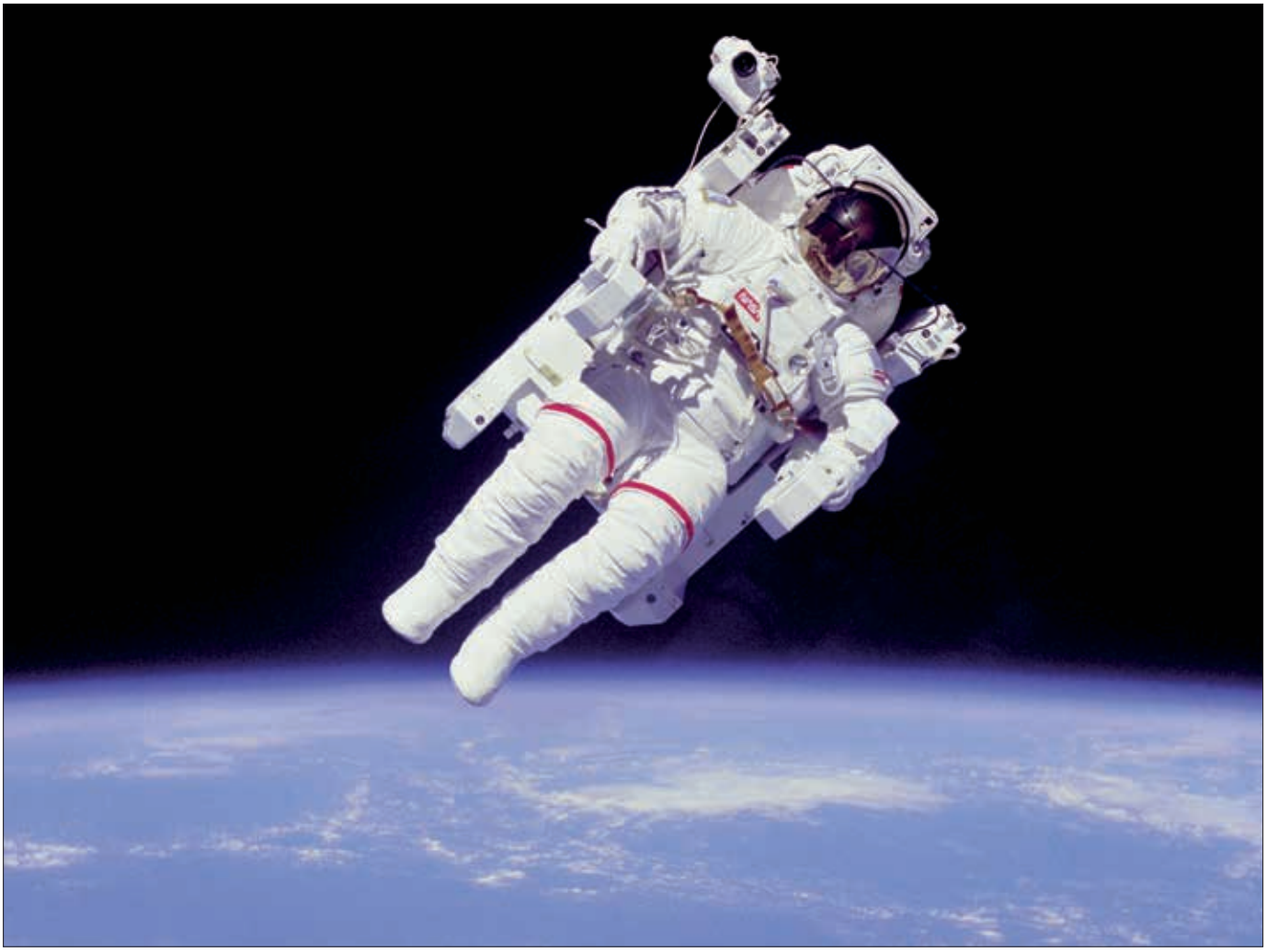
The Convention on International Liability already provides a basic framework for filing and adjudicating claims for damages caused by objects launched into space. Under Articles IX and XI, states can file a claim either with the launching state or the Secretary-General of the United Nations, or they can use the court system of the alleged offending state. Under Articles XIV and XV, if diplomacy does not settle the claim, states can mutually establish a claims commission with a member from each state and a mutually agreed chairman. It is noted, however, that a state can withdraw from the treaty with a year's notice under Article XXVIII.

This claims adjudication system is similar to a binding arbitration approach. The weakness in this system is enforcement. Currently, a state might refuse to recognize any claim or engage in the UN claims adjudication process. Even if a state agrees to adjudicate a claim for damages, forcing it to pay still rests in diplomatic channels. The more challenging or expensive the issue, the less likely it is that a state will be willing to diplomatically agree to payment and will use politics and arguments of unrelated inequities to justify its nonpayment. Under such circumstances, the fear of retribution for irresponsible or aggressive actions in space is undermined and thus is less likely to create conforming state behavior.[20]

It is for this reason, and the fact that damages are paid by economic and monetary means, that a solution might be to invoke the enforcement power of the WTO as a last resort forum if valid adjudicated claims go unpaid and diplomatic avenues fail. As all space-capable countries are reliant on world trade to support their economies, and as much of the space arena is morphing into commercial and commercial-like transactions, the WTO would be a familiar forum for imposing measurable economic trade sanctions to punish the liable state, and in part would compensate the damaged state.[21] Enforcement under these conditions is not reliant on voluntary payment, but the sum can be extracted by the international community. As in all standing tribunals, precedent would provide clarity of what is considered a violation and what the likely consequences would be for offending actions. Intentional offenses can have a "punitive damages" approach to increase the economic impact to the offending states. Additionally, as expertise and experience grow, the costs for even large egregious actions such as the 2007 China antisatellite missile test debris field might be calculated and placed as an economic threat to any nation contemplating such action.

Conclusion

Nations have gone a long way to identify and deter the weaponization of space. In short, the concerns over



Astronaut conducts space walk

weaponization involve the potentially destructive nature of space weapons. It is impossible to define what constitutes a space weapon, and controlling an arms race based on definitions of what constitutes a weapon is doomed to failure with the exception of those weapons clearly posing a substantial risk to humanity, such as nuclear and other weapons of mass destruction. For all other concerns, we should attempt to regulate and control the destructive behavior of nations rather than attempting to limit their technology. It is how they use their technology that matters. We will never completely prevent countries from engaging in war. However, we can bolster peaceful dispute methodologies to prevent escalation of such conflicts and provide deterrence against aggressive or irresponsible behavior.

Current international agreements do not offer an enforceable means of addressing claims for destructive activity, for while there is a forum for adjudication, participation and enforcement continue to rely heavily on diplomacy. A standing committee is needed to provide a credible, knowledgeable, and equitable forum for regulating, monitoring, and adjudicating claims and disputes relating to the damage caused by objects launched into space, whether they are designed for destruction or not. A logical place for this committee would be the United Nations. As current deterrence and enforcement of adjudicated claims currently rest solely in diplomatic, or in extreme cases military, channels, a third option is needed such as using the current economic deterrence and enforcement capability of the World Trade Organization to address and collect on unresolved adjudicated state liabilities. **JFQ**

Notes

[1] The discussion of weaponization of space and the reasons for individual state objections to defining and limiting weapons in space are limited in this article because security and political intent are not publicly discussed and can only be addressed through speculation. As Nancy Gallagher and John D. Steinbruner state, "Because the leading edge of technical accomplishment is obscured by security classification, even the most detached public assessment is subject to some uncertainty." See Nancy Gallagher and John D. Steinbruner, *Reconsidering the Rules for Space Security* (Cambridge, MA: American Academy of Arts and Sciences, 2008), 33.

[2] Treaty on Principles Governing the Activities of States in the Exploration and Use of

Outer Space, Including the Moon and Other Celestial Bodies," opened for signature January 27, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205, available at <www.oosa.unvienna.org/pdf/publications/STSPACE11E.pdf>.

[3] Ibid.

[4] Other treaties include the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (Resolution 2345 [XXII], annex), adopted December 19, 1967, opened for signature April 1968, entered into force December 3, 1968; Convention on Registration of Objects Launched into Outer Space (Resolution 3235 [XXIX], annex), adopted November 12, 1974, opened for signature January 14, 1975, and entered into force September 1976; and Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (Resolution 34/68, annex), adopted December 5, 1979, opened for signature December 18, 1979, and entered into force July 11, 1984, available at <www.oosa.unvienna.org/pdf/publications/STSPACE11E.pdf>.

[5] "International Space Law Panel," *The Whitehead Journal of Diplomacy and International Relations*, Summer/Fall 2010, available at <http://blogs.shu.edu/diplomacy/files/2012/05/002_Panel_Layout-11a.pdf>.

[6] Convention on International Liability for Damage Caused by Space Objects (Resolution 2777 [XXVI], annex), adopted November 29, 1971, opened for signature March 29, 1972, entered into force September 1, 1972.

[7] Ibid.

[8] Michael Listner, "An Exercise in the Art of War: China's National Defense White Paper, Outer Space, and the PPWT," *The Space Review*, April 25, 2011, available at <www.thespacereview.com/article/1828/1>.

[9] Federation of American Scientists, "Prevention of an Arms Race in Outer Space," November 26, 2012, available at <www.fas.org/programs/ssp/nukes/ArmsControl_NEW/nonproliferation/NFZ/NP-NFZ-PAROS.html>.

[10] Michael Listner, "U.S. Rebuffs Current Draft of EU Code of Conduct: Is There Something Waiting in the Wings?" *The Space Review*, January 16, 2012, available at <http://thespacereview.com/article/2006/1>.

[11] John Pike, "American Control of Outer Space in the Third Millennium," Federation of American Scientists, November 1998, available at <www.fas.org/spp/eprint/space9811.htm>.

[12] The Outer Space Treaty, Article VII.

[13] Convention on International Liability for Damage Caused by Space Objects, available at <www.faa.gov/about/office_org/headquarters_offices/ast/media/Conv_International_Liab_Damage.pdf>.

[14] Ibid.

[15] Bob Preston et al., "Space Weapons Earth Wars," *Project Air Force*, MR-1209-AF (Santa Monica, CA: RAND, 2002), 19.

[16] "International Space Law Panel," 16.

This true-color image shows North and South America as they would appear from space 35,000 km (22,000 miles) above the Earth (Image created by Reto Stöckli, Nazmi El Saleous, and Marit Jentoft-Nilsen, NASA GSFC).

[17] World Trade Organization (WTO), "Understanding the WTO: Basics—The GATT Years: From Havana to Marrakesh," available at <www.wto.org/english/thewto_e/whatis_e/tif_e/fact4_e.htm>.

[18] WTO, "Understanding the WTO: What We Do," available at <www.wto.org/english/thewto_e/whatis_e/what_we_do_e.htm>.

[19] "International Space Law Panel."

[20] This article deals with acts of aggression typically addressed by diplomatic and economic means. Military deterrence, defense, and response will always be present in the international community.

[21] I do not discuss the liabilities of commercial and nonstate actors since the current treaties make the site-of-launch state responsible, and "[s]o far, the major space-faring powers have developed sophisticated licensing and regulations to insure that private actors in space adhere to the UN treaty principles." See "International Space Law Panel."

Repatriation ceremony including nine colonial paintings, monstrance, and four pre-Columbian objects marks return of collection of cultural property, art, and antiquities looted from Peru; pictured: Saint Rose of Lima painting (ICE/Paul Caffrey)

Military Involvement in Cultural Property Protection

An Overview

By Joris D. Kila and Christopher V. Herndon

In June 2009, the United States ratified the 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict (the 1954 Hague Convention). This makes government protection of cultural property mandatory. Recent conflicts in Iraq, Egypt, Libya, Mali, and Syria have triggered renewed interest in Cultural Property Protection (CPP). The obligations of CPP are included in international treaties and military regulations and complicated by various stakeholders with different levels of understanding and willingness to invest in training and application.

Dr. Joris D. Kila is a Senior Researcher in the Kompetenzzentrum Kulturelles Erbe und Kulturgüterschutz at the University of Vienna and a Reserve Lieutenant Colonel in the Royal Netherlands Army. Colonel Christopher V. Herndon, USA, is Division Chief for Central Africa in the Strategy, Plans, and Programs Directorate (J5), U.S. Africa Command.

Because CPP includes a military responsibility to limit damage, it should be implemented before kinetic operations begin. Lack of CPP planning can exacerbate social disorder; eradicate national, ethnic, and religious identities; elicit international condemnation; and prolong conflict. If planned and executed correctly, CPP can be a force multiplier by concurrently contributing to international and domestic stability and goodwill. From this perspective, suggestions for general protection procedures and methods for implementing them against further disruption and damage are appropriate.

Historical Trends and Current Conditions

The vulnerability of cultural property to damage because of armed conflict is not new. Examples include the destruction of Carthage (149–146 BCE) and of the Ancient Library of Alexandria (48 BCE). A plethora of modern examples indicate that conflict-related destruction and looting of cultural property continue. Incidents from World War II are numerous and include the destruction of the famous Monte Cassino Abbey in Italy and damage to cultural property during the high intensity bombing of Germany.

During the current Syrian conflict, the shelling of national heritage sites including the Crusader fortress Krak des Chevaliers, as well as citadels, mosques, temples, and tombs, has been reported.[1] Whether these are wanton acts of destruction, collateral damage, or iconoclasm is unclear.

In Mali, various United Nations (UN) Educational, Scientific and Cultural Organization (UNESCO) World Heritage Sites, which include mosques and mausoleums, were damaged or demolished in 2012 by the designated foreign terrorist organization Ansar Al-Din (Defenders of the Faith), which considers the shrines idolatrous. Several of the esteemed Timbuktu manuscripts consisting of scholarly works and letters from the 13th century have also fallen victim to the Malian conflict. (Further research has found that only some of the manuscripts were destroyed.)

Perpetrators and their intentions have been numerous and varied, and heritage crimes have been widespread. International Criminal Court (ICC) Chief Prosecutor Fatou Bensouda asserts, "those responsible could face prosecution as their actions constitute a war crime." This is important; crimes committed during conflict can be prosecuted by the ICC based on individual criminal responsibility. The U.S. Senate has not ratified the Rome Statute of 1998 of the ICC. Mali is a state party to The Hague Convention of 1954 and its First Protocol; however, the National Movement for the Liberation of Azwad, which occupied northern Mali in 2012, is not internationally recognized and is therefore not under the jurisdiction of this convention.

Military Involvement

Military involvement in CPP should be viewed through the lenses of two international legal instruments: the 1998 Rome Statute of the ICC and the 1954 Hague Convention for Protection of Cultural Property. In the current hybrid "four-block war" operational environment, where military forces engage in all conflict phases, circumstances involving heritage protection must be recognized and analyzed in their complexity to mitigate and hopefully prevent damage to national and regional cultural heritage and identities connected with such heritage.

Established legal instruments that hold both individuals and parties responsible for heritage crimes sometimes do not extend to all perpetrators. For instance, Mali *is* a State Party to The Hague Convention of 1954 and its First Protocol, but the extremist group that seized power in northern Mali at the time is *not* an internationally recognized party, so it does not classify as a State Party. This implies that the extremists cannot be prosecuted for the destruction of cultural property as an official party but there is room for individual criminal responsibility. Unfortunately, although The Hague Convention's Second Protocol mentions individual criminal responsibility in chapter 4, this provision cannot be applied because Mali has not signed it.

However, the 1998 ICC Rome Statute, which constitutes a landmark treaty on individual responsibility in international crimes, contains important provisions for crimes against cultural property. The ICC can prosecute individuals responsible for deliberate destruction, and Mali *is* a party to the Rome Statute. It should be noted that these legal instruments only complement the national legislations of affiliated State Parties; they do not override them. For instance, when criminal laws in a given State Party to the ICC Statute cannot be enforced, the statute can function as a substitute. It states, "Nations agree that criminals should normally be brought to justice by national institutions. But in times of conflict, whether internal or international, such national institutions are often either unwilling or unable to act."[2]

Two relevant sections in ICC's Article 8 describe locations and buildings classified as religious or historical monuments, such as the Timbuktu mosques and tombs, which cannot be deliberately attacked unless they are turned into military objectives. This implies that those who intentionally undertake acts of violence against objects of cultural heritage have committed war crimes. Again, the Rome Statute recognizes individual criminal responsibility; although countries in which the crimes take place normally have national legislation to prosecute them. The Mali case and the earlier case of the Taliban's destruction of the Bamiyan Buddhas, both because of supposed idolatry, support the idea that cultural property is vulnerable to political manipulation.[3] In Mali this was evidenced by Ansar Al-Din's accusation that UNESCO was prejudiced against it and acted in favor of the transitional government.

Prevention and Responses

Addressing problems such as iconoclasm requires not only an awareness of cultural heritage and history but also effective legislation followed by appropriate actions. One possible action is the establishment of an international military and civilian cultural emergency response team. Considering recent cultural property devastations, we can reasonably

conclude that military organizations do not take sufficient preventive measures. However, the U.S. military is currently meeting this challenge. Several cultural resources working groups of civilian experts and military stakeholders are in place to monitor ongoing military operations for compliance.

Groups active in these endeavors include the Combatant Command Cultural Heritage Action Group (CCHAG), International Military Cultural Resources Working Group (IMCuRWG), which is now coordinated with North Atlantic Treaty Organization (NATO) Joint Analysis Lessons Learned Center, and U.S. Africa Command, among others.

Planning and Implementing

In the four-block war, troops operate during all phases of a conflict, frequently in circumstances where civil experts and local police cannot function. They are often the first to arrive at the conflict area and have logistical assets to operate in "cultural emergencies." At these times, forces must comply with national and international laws, but protecting cultural property is also a tactical and strategic objective and ensures military deliverables, such as force multipliers.

Failure to provide protection can make the situation problematic. Coalition forces failed to protect the National Museum of Iraq from looters during the fall of Baghdad in 2003. The ensuing negative public ramifications caused diminishment of force acceptance by the Iraqi people and anger from Western media about the war's progress. On the other hand, NATO received positive press for precision airstrikes during Operation *Unified Protector*, an effort aimed at protecting cultural property facilitated by CPP Lists (CPPLs) that resulted in better strategic communications. Military organizations, specifically ground tactical units, while not sufficiently trained for CPP and not typically working with specially designated CPP officers, understand archaeologist Laurie W. Rush's caution: "Deployed personnel in unfamiliar environments must realize that members of local communities are the ones who should assign value to cultural properties in their landscape."[4] In other words, research must be done, and local experts or reachback capabilities must be consulted or used before determining what is perceived as cultural heritage in an area of responsibility.

As demonstrated in Mali, however, conflict or postconflict situations can be so intense that ascertaining the exact condition of important cultural property is difficult or impossible. This is currently the case in Afghanistan, Egypt, Libya, Mali, and Syria. Attempts have been made, however, to establish assessment mechanisms for conflict regions. Although Blue Shield and IMCuRWG provided a good example by sending small assessment teams to Egypt and Libya, the international community did not follow through with these types of initiatives. Organizations such as UNESCO and NATO have presented various outlines for a systematic institutionalized approach as well as designs for overarching governing institutions. These include suggestions for international military cultural experts, who among other things should draft procedures and plans for civil handover capacities.[5]

However, these initiatives appear to remain in embryonic stages, having never had follow-through, purportedly because of lack of funding. As a result, the international community may have responded too late to save Syria's cultural heritage. Reported damage to cultural property there varies from shelling, army occupation, terrorism, looting, and uncontrolled demolition that looks similar to Al Hatra in Iraq, where demolitions damaged the ancient temples. World Heritage Sites such as the ancient villages of northern Syria, Krak des Chevaliers, and cultural properties in Damascus, Aleppo, and Palmyra are examples of damaged heritage. Added to this type of devastation are smuggling, theft, and the repurposing of strategically located cultural sites such as citadels, towers, and castles.

Numerous contemporary conflicts take place in identified archaeological source countries. Many are developing states that must concentrate on internal economic matters and that lack the financial means to manage their cultural resources and protect them from domestic or international abuse. Local politics influenced by personal advantage also complicate this situation.

Recent Developments

New developments associated with the rapidly evolving hybrid warfare environment include three-dimensional virtual reconstruction, geographic information systems, and satellite remote-sensing used in the assessment of sites, objects, and monuments. When more information becomes available about potential cultural resources, the process of clearly identifying "cultural heritage" becomes more complicated. Moreover, the status and nature of what falls under cultural heritage is subject to change. Examples are cultural landscapes—the process of memorializing the past and creating places of memory (or *lieux de memoires*), or "traumascapes," such as New York City's "Ground Zero," and other types of heritage including traditions or living expressions passed down through oral transmission, the performing arts, social practices, rituals, and traditional skills.[6] Just as The Hague Convention protects tangible heritage, the 2003 UNESCO Convention for the Safeguarding of Intangible Cultural Heritage protects these. This development in classifications also affects the sensitivity of cultural heritage topics in media and communications: negative media coverage of the Bush administration's lack of protection for the Baghdad Museum made tepid international support for the Iraq War almost disappear. Internet and social media sensitize national and international constituencies to the vulnerabilities of both tangible and intangible assets even further.

Dilemmas and Oppositions

Unfortunately, interested parties often find themselves pitted against each other when attempting to safeguard cultural property in compliance with international humanitarian law. Varying stakeholders and assessors of value further complicate the process. A typical cause of this behavior among cultural

experts is lack of financial resources and insufficient training. Other stresses arise from varying organizational structures or lack of embedding possibilities, jurisdictions, kinds of expertise, and spheres of influence. Taking a unifying role in articulating these resources might be advantageous to operations as the military assesses, plans, and implements CPP in compliance with various national and international treaties and organizations.

Several types of clashes of interests and responsibilities can be distinguished:

- military experts versus civilian specialists and nongovernmental organizations
- dual roles in the military consciousness: fighter/destroyer and preserver/protector
- differences in culture, terminology, and operational practice between U.S. and foreign forces
- differences between the academic heritage discourse and technical, religious, military, and political discussions including desired outcomes.

Research on implementing CPP shows that disagreements remain. Examples are the occasional clashes between air and land operations and antagonisms caused by cultural differences among the respective military cultures. The ideal situation is to provide targeting experts with accurate CPPLs before operations begin and to use technology and military expertise to adjust targeting plans with cultural heritage assessment reconnaissance from civilian experts. An example of a good practice is the case of Ra's Al Marqab during the conflict in Libya.

U.S. Immigration and Customs Enforcement repatriate gold artifacts and ancient vase, discovered by special agents to be destined for New York business suspected of dealing in looted cultural property, to Afghanistan government (ICE/Paul Caffrey)

Lessons of Ra's Al Marqab

Unrest began in Libya in March 2011, swiftly developing into a full-fledged conflict. The fighting initially included bombardments and shelling from warring parties. Air strikes followed and the United States and its coalition partners established a no-fly zone, which transitioned into a NATO operation. Libya is a party to the 1954 Hague Convention for the Protection of Cultural Property and signed its First (1957) and Second Protocol (2001). The country has five World Heritage Sites designated by UNESCO: the Greek archaeological sites of Cyrene, the Roman ruins of Leptis Magna, the Phoenician port of Sabratha, the rock-art sites of the Acacus Mountains, and the old town of Ghadamès. Numerous archaeological and historical sites dating from prehistoric times to World War II, and important to Mediterranean history are located on the Libyan coast.

On June 14, 2011, UNESCO contacted all parties to ensure the protection of Ghadamès and its immediate surroundings and appealed to them not to expose Leptis Magna to damage. The U.S. National Committee of the Blue Shield began gathering information in March 2011. Later, the U.S. Government partnered with Oberlin College, New York University, as well as with other institutions and organizations including various national Committees of the

Blue Shield. A draft CPPL was sent to the Special Assistant to the U.S. Army Judge Advocate General for Law of War Matters and Air Combat Command. The CCHAG disseminated information to several parties through the U.S. Air Force/Air Combat Command. The Institute for the Study of the Ancient World at New York University collated and reduplicated data and helped prepare the list submitted to the Department of Defense (DOD).

The Libya CPPL was provided to DOD prior to the initiation of the no-fly zone, then the International Committee of the Blue Shield was brought into the process. IMCuRWG shared approximately 200 coordinates with NATO's Allied Command Transformation (ACT) in Norfolk, Virginia. Through different routes, the United Kingdom (UK) Ministry of Defence (MOD) had been provided all the information given to the United States. Experts from the UK's Society for Libyan Studies, King's College, and the Rural Planning Group added valuable data. The list was forwarded to the UK Joint Staff, which forwarded it to targeteers. IMCuRWG also passed the coordinates to operational staff of the Royal Netherlands Armed Forces. The Netherlands, in accordance with UN Security Council Resolution 1973, took part under NATO command in imposing a no-fly zone over Libya. Forwarding the CPPL data to appropriate offices was crucial since the information could be entered into targeting databases and shared with NATO. UNESCO became involved after the bombing began on March 19, 2011. Civilian CPP networks established a working relationship, and future CPPLs were entered into the system on short notice, taking into account legal and ethical considerations based on established professional rules and practice.

Muammar Qadhafi's forces had placed a radar station on a hilltop where Ra's Al Marqab, a small Roman fort, lies near Leptis Magna, overlooking the city of Al Khums. The radar station was protected by five antiaircraft guns placed next to the Roman walls. A multidisciplinary cultural emergency assessment team from Blue Shield and IMCuRWG visited the location on September 29, 2011, and found heaps of metal rubbish. All weapons and support equipment had been destroyed by NATO airstrikes using the collateral damage estimation methodology and precision targeting.[7]

The team inspected the Roman walls and the vaults next to the guns and found few visible signs of the attack except for small surface scratches caused by shrapnel. There were no cracks or fallen stones. For the local archaeologists accompanying the team, this was their first visit to the site due to restrictions from the former regime.

Ra's Al Marqab serves as an example of precision bombardments that limit damage to cultural property and demonstrates the importance of providing exact coordinates to, in this case, NATO planners. However, we should recognize the challenges. During a civil-military panel discussion at an American Institute of Archaeology Conference held in Philadelphia, military participants emphasized the importance of setting priorities to avoid an overwhelming number of listed site coordinates, thus giving commanders a better opportunity to make decisions based purely on military grounds when necessary.[8]

CPP experts must understand DOD or MOD targeting procedures such as the collateral damage estimation methodology, which accounts for "no strike" items protected from military action and considers aspects of weapon effects and mitigation options to minimize potential damage to those items. Cooperation with military planners provides the possibility of exploiting advanced technologies, such as satellite remote-sensing and geographic information systems. By engaging in such cooperation, cultural specialists can supply risk preparedness and preventive conservation notes for inclusion in geospatial data sets for military planners.

It is relevant for military organizations to gain knowledge of CPP, including the role of cultural heritage aspects as part of the original causes of conflicts and associated identity perception mechanisms. Even newly constructed cultural identities can become political tools in the hands of regimes; for example, the German National Socialists attempted to recreate a past and rationale through manipulated use of *borrowed* iconography and monumental, intimidating architecture. On the other hand, Robert Bevan reiterates that a useful strategy to defeat a foe is to "exterminate this enemy by obliterating its culture," and by culture he means "identity."[9] The scope of such destruction can be relatively wide when, for instance, the danger to common objects, especially buildings, is also considered a threat to the group's identity, collective memory, and overall consciousness, as is the case with "urbicide," a concept used during the Bosnian wars in response to widespread and deliberate attempts at destruction of urban life and its material resources.[10]

This leads to the more comprehensive idea of places of memory, including traumascapes, that can be considered containers of identity. This level of refinement enlarges the gap between civil and military heritage expertise, increasing the need for research, dialogue, and transfer of knowledge between civilian and military spheres. Because of the subject's sensitivity, there is an urgent need for further research on the military perspective, including legal implications. Academic analysis of these heritage and identity issues is creating an extensive body of literature that addresses multiple factors against the continuously changing background of CPP. It could be argued that such analysis is undertaken from perspectives more advanced than any existing heritage debate addressing solely military aspects, thus enlarging a conceptual gap between civilian and military viewpoints.

An Example of Good Practice

In December 2011, the Austrian MOD, in cooperation with NATO's ACT and IMCuRWG, organized the first NATO-affiliated course on CPP in accordance with the 1954 Hague Convention and NATO's Standardization Agreement 1741 for Environmental Protection. NATO stated that "lessons identified from recent operations indicate that NATO's CPP capability remains suboptimal and is insufficient to fully achieve the aim of The 1954 Hague Convention." Through operations in

the Balkans, Afghanistan, and Libya, NATO concluded that specific actions are required to promote a deeper understanding of the legal and identity-related issues associated with CPP. Practical implementation is also needed to strengthen site protection to prevent looting and to work with locals to improve their CPP capabilities.

During the last decade, the Austrian MOD organized several courses and seminars on CPP that included international military and civilian participants, with some sessions involving NATO. The Austrian MOD is among the few military institutions that conduct training based on the 1954 Hague Convention, specifically concerning the articles on dissemination, training, and education. It has also made serious efforts to introduce CPP and its military perspective into the international scientific discourse. The 2011 workshop discussed the practice of military planning and the conditions, limitations, and possibilities for CPP officers that exist in the planning process in the Austrian armed forces.

The discussion revealed many problems and impediments as well as opportunities for participation, not only in Austria but also internationally during NATO- or UN-led operations. Participants took part in a planning exercise to experience practical problems. New case studies based on recent conflicts were introduced while legal experts examined them. The event showed the need for continued education, dialogue, and international cooperation. Unfortunately, no new initiatives have been introduced by NATO since then.

Joint Strategies and International Cooperation

It seems clear that international cooperation in establishing military compliance with CPP obligations is necessary. In most cases, financial and personnel resources from individual countries are insufficient to achieve a comprehensive solution. The development of educational tools will be possible by combining forces, thus providing cost-efficient training, interagency cooperation, nonduplicative research, academic education, and in-theater assessments. The benefits are synergistic and timely implementation, which is important given the current conflicts where cultural heritage is at risk and efficiency in securing it is at a low level. Overall, CPP can generate important force multipliers and help end military missions sooner while contributing to post-conflict reconstruction by stimulating tourism and strengthening national identities.

Policymakers are gradually becoming aware of two important factors in the assessment and study of international CPP cooperation. First, cooperation brings efficiency; second, it enhances *cultural diplomacy*, loosely defined as "the exchange of ideas, information, art, and other aspects of culture among nations and their peoples in order to foster mutual understanding."[11] CPP as part of cultural diplomacy also provides the means to restore old contacts or develop new ones after conflict with countries that have opposing ideologies. "Cultural diplomacy is the first resort of kings," states former cultural diplomat Richard Arndt.[12] Cultural diplomacy policy will not be taken seriously if the implementing country has a reputation of destroying cultural property during military operations or is seen to avoid legal obligations as formulated by The Hague Convention of 1954. Furthermore, the apparent disregard of international agreements can precipitate "lawfare," or continuous time-consuming, resource-intensive legal battles that stand in the way of a multitude of desired outcomes.

We still must be cautious. Eric Nemeth suggests a potential for proactive protection of cultural artifacts, particularly in light of the 2009 U.S. ratification of The Hague Convention of 1954. He claims U.S. foreign policy can transform the risk related to the potential loss of cultural property into a diplomatic gain by insisting that military interventions include a strategy for securing cultural sites and avoiding collateral damage.[13] This approach is mandatory under international humanitarian law; however, Nemeth does not mention that Washington has yet to ratify Protocols 1 and 2 of The Hague Convention of 1954. This means that using this treaty to promote certain ethically driven values could backfire when it will be stressed that the United States evokes a treaty for which they do not carry full responsibility.

Nevertheless, The Hague Convention of 1954 and, if applicable, its protocols should be used in strategic communication and cultural diplomacy, albeit only by the parties who fully endorse them. Unfortunately, if demonstrable success in implementing the convention is the condition for its use, not many states or parties would qualify. Therefore, promoting CPP for diplomatic or economic reasons is a valid and potentially beneficial idea that should be addressed cautiously.

The Link Between Cultural and Natural Resources

Successful appeals to military organizations to implement The Hague Convention of 1954 and its protocols have been difficult, even though the advantages seem obvious. To begin, terms such as *culture*, *cultural heritage*, *cultural affairs*, *cultural awareness*, *cultural property*, *cultural identity*, and *cultural diplomacy* are vague and do not suggest any relationship between culture and the natural environment as has been established in newer concepts such as cultural landscapes. The terms *heritage* and *property* present both legal and material aspects. In the legal sense, cultural heritage is often referred to as cultural property, in which case cultural heritage should be seen as a special case under the general term *cultural property*. Cultural properties in danger of damage or destruction during modern asymmetrical conflicts are often owned and maintained by states, so using terms such as *property* and *heritage* can unnecessarily imply or emphasize a disputed or claimed ownership. However, at least one undisputed common denominator persists: cultural property is a resource, or what sociologist Pierre Bourdieu identifies as cultural capital. Therefore, the term *cultural resources* may be the best option.[14]

An extra advantage is that the term *resource* is normally associated with "natural" resources. This notion opens the door to a new approach to CPP that

Smaller Bamiyan Buddha from base, Afghanistan 1977, destroyed by Taliban in 2001 (Phecda109)

involves natural resources while tackling the problem of the lack of military organizational structures necessary to house CPP capabilities. Institutional embedding on shorter notice while waiting for permanent CPP dedicated positions to be created is important in the light of today's cultural heritage disasters related to armed conflict.

Military units must contend with environmental issues, and military personnel are accustomed to handling resources with care. Legal instruments and regulations such as NATO Standard Agreement 1741 directly address members on issues of natural and cultural resources. Others are congressional legislation that established the Legacy Resource Management Program and the U.S. Central Command Contingency Environmental Guidance Regulation R-200-2. Not only is the connection between cultural and natural resources addressed in these measures, but there are also indications of possible mitigation and initiative, which suggest that the protection of cultural property could be taken into account early in the military planning process.

Further examples of cultural heritage–related environmental problems caused by military activities are soil pollution, which can contaminate or destroy cultural artifacts, and soil replacement and supplementation, such as unintentional damage inflicted by forces using Hercules Engineering Solutions Consortium barriers. Culture-environment connections are only beginning to be codified into military regulations and doctrines, although direct results should become apparent soon. Consequently, CPP will automatically be considered in military plans, and a judicious combination of CPP and military planning should bring desired improvements. Recently, U.S. Africa Command included a CPP annex in its theater campaign plan that outlines the international standards all personnel should follow.

Balancing Interests

The relationship between CPP and security is complex and dynamic. In today's world, which is complicated by local religious and cultural identities as well as the possibilities of unethical affiliations with various agencies, we must not forget the ability for insurgent groups to generate profits from cultural objects via illicit trafficking.

Another vital aspect of CPP is that the status and definition of *cultural heritage* is subject to change. Examples are the Soviet statues of Lenin and Stalin that were no longer considered to be cultural heritage after the disintegration of the Soviet Union. Meanings shift constantly, and apart from being preserved, sites are often redesigned to contemporary perceptions, indicating that many sites no longer constitute the presence of the past but rather the present *presented* as the past. Local regulations are only as permanent as shifting and dynamic language allows them to be. Military operations must somehow adapt to them.

Conclusion

Civilian participants tend to sentimentalize and politicize the protection of cultural heritage. The subject is so sensitive that the military has been compelled to take into account both past and present circumstances before implementing a cultural heritage strategy. We can see CPP as a form of preventive conservation. As stated by the National Gallery of Australia:

Preventive conservation aims to minimize deterioration and damage to artworks, therefore avoiding the need for invasive conservation treatment and ensuring protection for now and the future. Preventive conservation is based on the concept that deterioration and damage to works of art can be substantially reduced by controlling some of the major causes of this in the gallery environment.[15]

If we replace "works of art" with "cultural resources" and "gallery environment" with "the environment," we have a workable definition for CPP purposes and the beginnings of an orchestrated approach to the challenge. Five observations and four recommendations follow:

- Military success can no longer be defined by tactical successes alone but in terms of post-conflict political, social, economic, and cultural stability of the nations and groups involved. CPP is a force multiplier. It should not be regarded as an unnecessary burden that is legally imposed but militarily problematic.
- CPP touches on the issue of general "cultural awareness" but requires unique specialized skills beyond those necessary for "general cultural awareness."
- Current measures to prevent conflict-related damage to cultural properties are neither suitably extensive nor adequately quick to prevent damage.
- An independent international academic center that would work with a military CPP competence center, organized by NATO or a military academic institute, would provide efficiencies and authority to various projects.
- Lawfare, a more subtle form of warfare and an unintentional byproduct of a real or potential breach of The Hague Convention of 1954 protocols, could divert or consume governmental resources.
- We should approach military necessity in the context of CPP and discuss and encourage its study among all stakeholders, both military and civilian.
- Both civilian and military experts must study and debate the relationship and possible connections of CPP with global security.
- CPP must be depoliticized as far as possible and ensure compliance with international agreements and mandates.
- Because the United States ratified The Hague Convention of 1954, it should appropriate sustainable resources to fund training and implementation to ensure DOD compliance.

Cultural property protection depends on a significant attempt to create a military or cooperative civil-military cultural emergency assessment capability, which at the very least is able to monitor and mitigate cultural destruction during conflicts. The complexity of cultural property definitions and the practicalities of its protection have created many controversies, but these are resolved with adequate education, training, resource development, and dialogue among all stakeholders. **JFQ**

Notes

[1] See Emma Cunliffe, *Damage to the Soul: Syria's Cultural Heritage in Conflict* (Palo Alto, CA: Global Heritage Fund, 2012), available at <http://ghn.globalheritagefund.com/uploads/documents/document_2107.pdf>.

[2] For further discussion of individual responsibility, see Mirielle Hector, "Enhancing Individual Criminal Responsibility for Offences Involving Cultural Property—The Road to Rome Statute and the 1999 Second Protocol," in *Protecting Cultural Property in Armed Conflict: An Insight into the 1999 Second Protocol to The Hague Convention of 1954 for the Protection of Cultural Property in the Event of Armed Conflict*, International Humanitarian Law Series, ed. Nout van Woudenberg and Liesbeth Lijnzaad (Leiden, Netherlands: Martinus Nijhoff Publishers, 2010).

[3] Joris D. Kila, *Heritage Under Siege: Military Implementation of Cultural Property Protection Following the 1954 Hague Convention* (Leiden, Netherlands: Brill, 2012).

[4] Laurie W. Rush, "Cultural Property Protection as a Force Multiplier in Stability Operations," *Military Review* 92, no. 2 (March–April 2012), 36–43.

[5] For suggestions, see Joris D. Kila, "Utilizing Military Cultural Experts in Times of War and Peace: An Introduction," in *Culture and International Law*, ed. Paul Meerts (The Hague: Hague Academic, 2008); Joris D. Kila, "Cultural Property Protection in the Context of Military Operations: The Case of Uruk, Iraq," *Conservation and Management of Archaeological Sites* 13, no. 4 (November 2011), 311–333.

[6] See Pierre Nora, *Les Lieux De Memoire*, Bibliotheque Illustrée Des Histoires (Paris: Gallimard, 1984); and Maria Tumarkin, *Traumascapes: The Power and Fate of Places Transformed by Tragedy* (Victoria: Melbourne University Press), 2005.

[7] Hafed Walda, Ph.D., at King's College; Joris Kila, Ph.D., at University of Vienna; and Karl von Habsburg.

[8] For a brief overview of these meetings, see the Archaeological Institute of America's online report titled "The Cultural Heritage by AIA-Military Panel Conference," available at <http://aiamilitarypanel.org/events/champ-workshop-at-2012-aia-annual-meeting/cultural-heritage-information/>.

[9] Robert Bevan, *The Destruction of Memory: Architecture at War* (London: Reaktion, 2006).

[10] Martin Coward, *Urbicide: The Politics of Urban Destruction* (London: Routledge, 2009).

[11] Milton C. Cummings, *Cultural Diplomacy and the United States Government: A Survey* (Washington, DC: Center for Arts and Culture, 2003).

[12] Richard T. Arndt, *The First Resort of Kings: Cultural Diplomacy in the Twentieth Century* (Washington, DC: Potomac Books, Inc., 2005).

[13] Erik Nemeth, "Repatriating Part of Saddam Statue Could Promote Democracy," *Chicago Tribune*, June 7, 2012, available at <http://articles.chicagotribune.com/2012-06-07/opinion/ct-perspec-0607-artifacts-20120607_1_hiram-bingham-iii-artifactscollateral-damage>.

[14] Pierre Bourdieu and Jean Claude Passeron, *The Inheritors: French Students and Their Relation to Culture* (Chicago: University of Chicago Press, 1979).

[15] National Gallery of Australia, "Collection Conservation: Preventive Conservation," June 16, 2012, available at <http://nga.gov.au/conservation/prevention/index.cfm>.

Soldier checks blood pressure of Afghan in Kandahar Province, Operation *Spartan Stork* (U.S. Army/Kristina Truluck)

Medical Diplomacy in Achieving U.S. Global Strategic Objectives

By Aizen J. Marrogi and Saadoun al-Dulaimi

Since its introduction by Joseph Nye, Jr., in 1990, *soft power* has been defined as "achieving desirable influence through attraction and cooperation," as opposed to *hard power*, which rests on inducements or threats.[1] Although the concept of soft power is not universally embraced,[2] using economic, cultural, scientific, and healthcare resources can create a dominant soft power that, when carefully applied, might generate favorable behavior from other nations and their leaders and build enduring partnerships to promote regional and global security.

The healthcare sector is a diverse group of industries accounting for $2.8 trillion, or 17.8 percent, of the U.S. gross domestic product.[3] It delivers direct health care through thousands of hospitals and other facilities and provides research and development for manufacturing pharmaceuticals, medical devices, and biotechnology. It is a research-intensive segment of the economy focusing on developing better methods for preventing, diagnosing, and treating life-threatening diseases, and it provides stability and prosperity in the form of millions of high paying jobs. It can also play a pivotal role in a U.S. asymmetric response to unpredictable

Colonel Aizen J. Marrogi, USA, MD, has served as a Surgeon General Liaison Officer to the Iraqi Ministry of Defense. Dr. Saadoun al-Dulaimi is serving his second tour as Iraqi Minister of Defense and is also the Minister of Culture.

challenges overseas, both directly through the care of patients and more generally in the economic benefits of expanding the healthcare sector in countries where unemployment and unfavorable socioeconomic factors contribute to radicalism.

Physicians are well regarded in many cultures, especially in the Arab and Muslim world. U.S. policy strategists can leverage this historic goodwill and use the diplomacy of medicine to reach out to Arab and Muslim countries, especially those undergoing Arab Spring transitions including Egypt, Libya, Tunisia, Yemen, and even Syria. For countries such as Iraq that have shattered healthcare infrastructures, healthcare cooperation represents a unique opportunity to set their relationships with America on a more amicable and sustainable course.

Medical Diplomacy and Engagement

The diplomacy of medicine can achieve the dual goals of improving global health while helping repair failures in diplomacy, particularly in conflict areas, maturing theaters, and resource-poor countries. It can also represent a creative U.S. response to radical and fundamentalist propaganda that aims to inflame the Arab and Muslim world against the West. The instruments of this forward diplomacy are U.S.-trained physicians and other healthcare professionals serving as parts of U.S. missions or commands. Besides building goodwill within the population, they can gain access to decisionmakers in the host nations, providing a unique capability to engage and leverage the U.S. position. Table 1 summarizes forms of medical engagement and their desirable effects on host nations and on their relationship with Washington.

The United States is the largest global aid donor, spending nearly $50 billion for economic and military assistance in 2011. Some $14.1 billion was spent in support of U.S. Agency for International Development (USAID) programs. Furthermore, institutions within the U.S. Government have a long and rich medical engagement tradition, which has left beneficial legacies. The Walter Reed Army Institute of Research, Naval Medical Research Center, Centers for Disease Control and Prevention, National Institutes of Health, Fogarty International Center, and others have epitomized medical engagement as outlined in table 1 in the public health, epidemiology, and capacity-building areas (types III and IV). Their efforts focus on developing drugs and vaccines as treatments for infectious and communicable disease, training and mentoring international scientists in biomedical disciplines, and conducting epidemiological surveys in response to emerging medical threats. They deploy medical staffs and scientists to Central and South America, East Africa, Europe, Oceania, and East Asia to work alongside host nation counterparts in a Doctors Without Borders spirit, promoting U.S. ethical values. The Center for Disaster and Humanitarian Assistance Medicine, a congressionally funded organization within the Uniformed Services University, is an academic resource for humanitarian assistance and disaster response medicine through education, training, consultation, and scholarly activities.

Table 1. Forms of Medical Engagement and Desired Effects

Mission Type	Duration	Nature of Assistance	Host Nation Effect		U.S. Gains
			Local	National	
I. Disaster relief/ humanitarian	Temporary	Rescue, shelter	Limited	Immediate	Professional, limited
II. Direct health care	Short	Surgical	Limited	Immediate	Professional, limited
III. Public health/ epidemiology	Medium	Infectious/ communicable diseases	Community	Long term	Knowledge impact
IV. Capacity-building	Long	Health industry	National	Long term	Economic diagnostics
V. Physician-Leader relationship	Long	All inclusive	Regional	Long term	Strategic

Types I and II initiatives as seen in table 1 have constituted the bulk of U.S. medical engagements since the 1940s. The naval forces are frequently called on to respond to disasters, both natural and manmade, including floods (Cyclone Gervaise in Mauritius in 1975 and Typhoon Rita in the Philippines in 1978), earthquakes (Ionian and Volos islands of Greece in 1953 and 1955, respectively), ship crew and passenger/refugee rescues (Cuban flotilla repatriation to U.S. soil in 1977), storm relief efforts, and oil spill cleanup. In addition, more than 6,000 missions are carried out annually by hundreds of nongovernmental organizations at a cost of $250 million including surgical missions of craniofacial reconstruction, cataract extractions, and treatment of adult and pediatric acute and chronic diseases.

While these well-intended missions resonate favorably with the receiving community and gather instant political capital for U.S. policy- and decisionmakers, their enduring value is questionable since for many there is no objective measure of their performance.[4] Furthermore, medical missions of this type can undermine local health systems since they rely on visiting volunteers, and there is limited possibility of long-period sustainment due to costs, schedule constraints, and complicated logistics.[5] They also impose additional burdens on local health facilities and, in some cases, fail to follow host nation healthcare delivery standards.[6] In an extensive review of 2,000 short-term medical missions, a study established the need for better planning and preparation in the areas of cross-cultural communication as well as the contextual realities of mission sites and coordination with host nation healthcare programs and transparency to ensure an optimal outcome.[7] Other forms of medical relief and aid are delivered through specific efforts and initiative health programs such as the (U.S.) President's Emergency Program for AIDS Relief, President's Malaria

Table 2. Defense and Healthcare Industries: A Comparison

Defense Industry	Healthcare Industry
$1.56 trillion or 5.8 percent of gross domestic product (GDP) with 1 in 14 Americans working in this sector	$2.8 trillion or 17.8 percent of GDP, employing one in every eight Americans
Mainly large businesses and government	Mainly small businesses
Components include aerospace, energy, shipbuilding, automotive, and textile	Components include healthcare delivery, pharmaceutical industry, medical devices, healthcare insurance, and information technology
Fortune 500 companies (14): Boeing, United Technologies, Lockheed Martin, Honeywell International, General Dynamics, Northrop Grumman, Raytheon	Fortune 500 companies (48): 11 in healthcare insurance; 8 medical facilities; 12 pharmacy, laboratories, and medical devices; 12 pharmaceuticals; and 5 wholesale medical products
Hard power	Soft power

Initiative, and Global Health Initiative, with some focusing on female and child health issues.

The Healthcare Sector and U.S. Economy

Table 2 compares two significant sectors of the U.S. economy, each representing a form of national power in terms of its ability to achieve success.

We do not advocate replacing the coercive nature of hard power with the soft power manifested by the health sector and others, but combining the two in pursuit of international relationships. The United States can dominate in any armed conflict, but it has also excelled in projecting its soft power with the help of governmental, academic, and commercial institutions to promote American culture, ideals, and values among willing partners. America and its allies decisively won World Wars I and II. Washington failed to engage its postconflict soft power quickly to help shattered Europe in the aftermath of World War I, but it offered assistance through the Marshall Plan after World War II with a completely different outcome. The Europeans have remained America's staunchest allies in major international crises and confrontations including those arising during the Cold War and more recently the so-called war on terror.

The United States is engaged in modernizing the security forces of dozens of nations, providing them with weapons systems worth $66 billion in 2011. Half of that sum involves deals with Iraq and other Arab Gulf states,[8] which admire the U.S. medical and healthcare system and aspire to acquire its capabilities. This industry should also be a significant part of the Foreign Military Sales (FMS) process. Medical components will help allies take care of their troops, who will be using American weapons systems. The arrangement will suggest the kind of relationship Washington seeks with its friends around the globe. America wants its allies to defend themselves while it simultaneously helps them care for their people who are injured in the line of duty. This message will resonate and cement long-term strategic alliances. Currently, the U.S. effort to modernize Saudi Arabia's national guard is the only known such program where medical engagement plays a significant role. Success stories there will typify the desirable effects Washington might expect if it expands this approach into Iraq, Turkey, Egypt, Libya, and countries in the areas of responsibility of U.S. Pacific and U.S Africa Commands.

Budget Cuts and the Pivot to the Pacific

With the Department of Defense (DOD) facing a budget reduction of $500 billion over the next decade, the Nation must fundamentally rethink its engagement strategy.[9] Washington will remain vitally interested in promoting democracy, peace, and stability in the Middle East once its conventional forces are withdrawn. The question is how to augment engagement with allies and keep influence when a conventional presence is reduced or withdrawn for logistical, political, or strategic reasons. Iraq represents such a challenge.

Moreover, in the fall of 2011 President Barack Obama announced plans to expand the U.S. role in the Asia-Pacific region. The fundamental goal underpinning the pivot or rebalancing toward this region has been to strengthen U.S. allies there, many of whom share U.S. values and beliefs, including a desire for a more forward American policy to counterbalance China's growth as a military and economic power. Given the geographic enormity of this region, which constitutes 55 percent of the world's territory, an increased U.S. military emphasis in the theater might result in reduced military capacity in other parts of the world, especially with budgetary constraints and the possible curbing of the U.S. Navy's operational plans.[10]

Tool of Influence

Health care is among the highest needs of the citizens of the Third World and developing countries, who are burdened with infectious and communicable diseases. These needs are exacerbated by poor environmental sanitation, a shortage of safe drinking water, smoking, undernutrition, and limited access to preventive and curative health services. In addition, lack of education, gender inequality, and explosive population growth have overwhelmed what health services are available in some nations where the United States maintains a large military presence. Addressing these problems both among countries and within countries constitutes one of the greatest challenges of this century.

To illustrate the usefulness and significance of forward medical diplomacy and engagement, we present three international players who have used this strategic form of power to enhance their standing abroad and among their constituents. Two are state players—Cuba and China—and the other consists of radical Islamic groups in the Middle East. In 1959, Cuban medical internationalism was introduced by Ernesto "Che" Guevara, the new government's minister of health, and the country now deploys medical personnel overseas to deliver

USNS *Comfort* anchored off Port-au-Prince, Haiti, during Operation *Continuing Promise* (U.S. Navy/ Eric C. Tretter)

care and train host nations' medical personnel. The largest medical school in the world, Escuela Latinoamericana de Medicina (ELAM), has an enrollment of over 8,000 students from the Third World.[11] Furthermore, Cuban humanitarian missions and medical teams have been dispatched to Chile, Nicaragua, and Iran following earthquakes.[12] Venezuela's Mission Barrio Adentro ("Inside the Neighborhood") program grew out of the emergency assistance Cuban doctors provided in the wake of the December 1999 mudslides in Vargas state.[13] Although medical missions delivering health care have had limited impact, the remarkable aspect of this aggressive policy has been its sustainability, with more than 40,000 personnel (75 percent are health professionals) deployable to nearly 100 countries. This forward medical engagement has provided Cuba with symbolic capital (goodwill, influence, and prestige) well beyond its expected geopolitical influence. Although humanitarian principles are one reason for embarking on such a policy, promoting Havana's image abroad and preventing international isolation are the likely driving factors. Cuba's reestablishment of diplomatic relations with Guatemala in 1998 and Honduras in 2002 is a testimony of the success of its medical diplomacy and engagement strategy. Economically, Cuba's earnings from medical engagement have exceeded $2 billion, or 28 percent of its total export receipts and net capital payments.[14]

While much has been said about China's commercial push into Africa, a less-publicized facet of its foreign policy strategy has been "health diplomacy," which has manifested itself in several medical engagement forms including the launching of the first hospital ship for the People's Liberation Army Navy, *Peace Ark*. The majority of China's foreign aid funds have gone into building hospitals and clinics, establishing malaria prevention and treatment centers, dispatching medical teams, training local medical workers, and providing medicine and equipment. By the end of 2009, China had built over 100 medical facilities, and some 30 additional hospitals are currently under construction; in addition, more than 1,000 health professionals are being trained on the African continent.[15] By comparison, the United States managed to build one hospital in Basra, Iraq, after nearly 10 years of operations in the country. China may be the only country outside Cuba to send government-paid medical workers to live and practice in Africa for extended periods.[16] The differences between Beijing and Washington when it comes to providing aid involve areas of transparency, staffing, and use of a sector focus not directly connected to other efforts. The United States ties its aid to human rights and correct governance.[17] Partly because of these differences, China appears to have achieved more success with its aid programs in Africa even though many recipient nations feel more kinship with U.S. values. The Chinese government has also been able to win support from African countries on the international stage including in the United Nations (UN) and World Trade Organization.

The last of these international players that have adopted a medical diplomacy policy with resounding success are the radical Islamic elements in the Middle East including Hamas, Hizballah, and the Islamic Brotherhood of Egypt. An estimated 90 percent of Hamas activities revolve around "social, welfare, cultural, and educational activities" and, in particular, readily accessible healthcare services for the masses in the West Bank. The Muslim Brotherhood was founded in Egypt in 1928 and became a powerhouse and main opposition to President Hosni Mubarak's regime in 2005 after it changed tactics by recruiting young physicians, engineers, and teachers to

Medic conducts checks with Afghan children in Khowst Province (U.S. Army/Jason Epperson)

operate its schools and clinics. Hizballah started as a small militia but now has seats in the Lebanese government, a radio and a satellite television station, and ambitious programs for social development, allowing this shady group to emerge from the fringes of society to occupy center stage in world affairs. The UN Office for the Coordination of Humanitarian Affairs noted that "Hezbollah not only has armed and political wings," but also boasts an extensive social development program with hospitals and clinics providing affordable health care in southern Lebanon and West Beirut.

The Power of Medicine in U.S. Diplomacy

How can the United States bring this significant sector of its economy to play a pivotal role in achieving its global objectives of securing peace and stability, fighting radical ideological and religious groups, and promoting democracy? What can a U.S.-trained medical care provider in a health attaché/medical advisor role hope to accomplish?

A U.S.-trained provider or health attaché can play three major roles: shape the nature and environment of the U.S. mission senior diplomat or commander, be an advocate for the U.S. healthcare industry and practices, and act as an essential player in implementing existing security cooperation. As part of a mission, the provider would serve as an advisor to the mission chief or senior military leader on health matters related to U.S. personnel whether military, civilian, or contractor. When engaging host nations' senior nonmedical and medical leaders as a source of assistance to the former group and advisor to the latter, the provider's contributions can be an important way to showcase American values including ethical practices, competency, honesty, compassion, and respect for human dignity and rights.

Under certain conditions, a medical provider can be the go-between, especially when the provider understands the culture of host nation counterparts and leaders. A physician or other healthcare provider has a unique relationship with leaders of other nations, sometimes in the doctor-patient context where trust and privacy can translate into better collaboration and mutual assistance between the nations. In Iraq, for example, a deployed U.S. provider through his excellent relationship with host nation authorities was able to obtain the country's flu epidemiology response plan and information on a cholera epidemic and a small outbreak of typhoid, which helped him implement measures to protect U.S. personnel. Having a competent medical delivery system in a partner nation may augment U.S. military healthcare assets in time of combat, something the United States learned well during first Gulf War. Both authors recall several occasions where their relationships were key in clearing

Corpsman uses auto refractor during eye examination at Prince Ngu Hospital in Tonga during Pacific Partnership 2011 (U.S. Navy/Eli J. Medellin)

significant hurdles facing the U.S. mission in the host nation, the details of which are beyond the scope of this article.

Forward and aggressive medical engagement abroad will put adversaries on the defensive, diminishing their hard and soft power since they cannot compete with the achievements and outcome of U.S. health care in all of its sectors. During his deployment, a U.S. provider was asked daily about accessing U.S. medicine (drugs) by host nation leaders known to have an adversarial view of the United States but who did not hesitate to place their trust in U.S.-trained medical professionals when it came to their own and their families' health.

The United States and its allies are involved in a global war to combat extremism and radicalism. Health diplomacy and engagement will bring America's humane intentions and values closer to the masses, especially in cultures with a negative image of America. It should be an integral part of an asymmetric response using all the pillars of U.S. strength including both hard and soft components. U.S. medical providers can contribute immensely to the security assistance missions of the U.S. State and Defense Departments. So far, only the Saudi Arabian National Guard Modernization Program has managed to incorporate a senior healthcare provider within its ranks.

The Way Forward

To accomplish the concept described herein, the doctrine of medical diplomacy and engagement for the U.S. Government and military must be defined and developed as a joint concept. Stakeholders from DOD, the State Department, USAID, the healthcare industry, and perhaps some intelligence agencies should discuss rules of engagement and write a training manual with procedures for personnel to execute this vision. Most observers equate medical engagement with both military and civilian U.S. medical providers simply delivering health care to host nation citizens. This is not what we are promoting. We advocate a more forward medical policy as part of a wider application of other components of soft power such as education, commerce, and culture. U.S. military medical personnel should always be included as health attachés to serve in key U.S. missions overseas. Their goals should include coordinating with medical FMS cases to complement ongoing strategic efforts to advance peace and stability, build professional and personal relationships with both medical and nonmedical host nation leaders, and serve as advocates for U.S. health care in all of its phases including care, education, and research. One of the authors, Dr. al-Dulaimi, while serving in his official capacity as Iraq's Minister of Culture, always emphasized the importance of the U.S. cultural

attaché making his or her presence felt on the Iraqi cultural stage.

The United States is at a crossroads in searching for ways to stay engaged in a hostile world during a time of financial strain. U.S. medical commands must adapt to the changing environment and be in front of civilian and military leaders to help address their needs and shape the operational environment before, during, and after any decisive engagement. American medicine can be on the forefront of a new forward medical policy. It has the personnel, tools, and doctrine. It only needs the opportunity, the conviction, and the endorsement of all the stakeholders within and without the U.S. Government. **JFQ**

Girl shows sister how to "open wide" as Peruvian navy lieutenant pulls tooth during Continuing Promise 2011 community service medical event at Polideportivo medical site in El Salvador (U.S. Air Force/Alesia Goosic)

Notes

[1] Joseph S. Nye, Jr., *Soft Power: The Means to Success in World Politics* (New York: PublicAffairs, 2004).

[2] David Frum and Richard Perle, *An End to Evil: How to Win the War on Terror* (New York: Random House, 2004).

[3] Brent Jones, "Medical Expenses Have 'Very Steep Rate of Growth,'" *USA Today*, February 4, 2010, available at <www.usatoday.com/news/health/2010-02-04-health-care-costs_N.htm>.

[4] Jesse Maki et al., "Health Impact Assessment and Short-Term Medical Missions: A Methods Study to Evaluate Quality of Care," *BMC Health Services Research* 8, no. 121 (2008), available at <www.biomedcentral.com/1472-6963/8/121/>.

[5] Andrew D. Pinto and Ross E.G. Upshur, "Global Health Ethics for Students," *Developing World Bioethics* 9, no. 1 (April 2009), 1–10.

[6] Stephen Bezruchka, "Medical Tourism as Medical Harm to the Third World: Why? For Whom?" *Wilderness and Environmental Medicine* 11, no. 2 (2000), 77–78; P. Suchdev et al., "A Model for Sustainable Short-Term International Medical Trips," *Ambulatory Pediatrics* 7, no. 4 (July–August 2007), 317–320.

[7] Alexandra L.C. Martiniuk et al., "Brain Gains: A Literature Review of Medical Missions to Low and Middle-Income Countries," *BMC Health Services Research* 12, no. 134 (2012), available at <www.biomedcentral.com/1472-6963/12/134>.

[8] Thom Shanker, "U.S. Arms Sales Make Up Most of Global Market," *The New York Times*, August 27, 2012.

[9] Leon Panetta, "Major Budget Decisions Briefing from the Pentagon," press briefing, Washington, DC, January 26, 2012.

[10] M.E. Manyin, *Pivot to the Pacific? The Obama Administration's "Rebalancing" Toward Asia*, RL 7-5700 (Washington, DC: Congressional Research Service, March 2012).

[11] John M. Kirk and H. Michael Erisman, *Cuban Medical Internationalism: Origins, Evolution, and Goals* (New York: Palgrave Macmillan, 2009).

[12] Robert Huish and John M. Kirk, "Cuban Medical Internationalism and the Development of the Latin American School of Medicine," *Latin American Perspectives* 34, no. 6 (November 2007), 77–92.

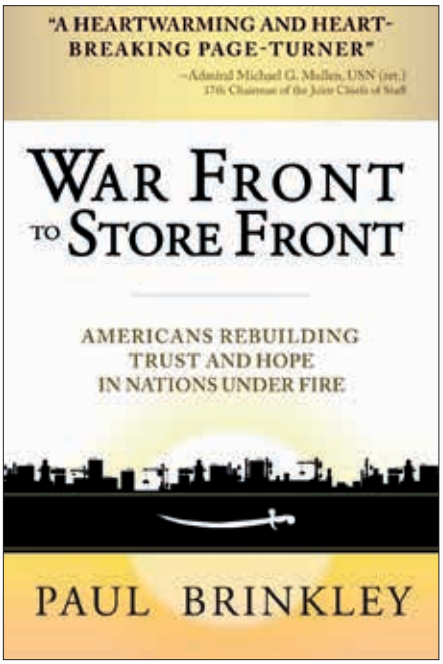
[13] Charles L. Briggs and Clara Mantini-Briggs, "Confronting Health Disparities: Latin American Social Medicine in Venezuela," *American Journal of Public Health* 99, no. 3 (March 2009), 549–555.

[14] Julie M. Feinsilver, "Oil-for-Doctors: Cuban Medical Diplomacy Gets a Little Help from a Venezuelan Friend," *Nueva Sociedad*, no. 216 (July–August 2008).

[15] Charles W. Freeman III, project director, and Xiaoqing Lu Boynton, ed., *China's Emerging Global Health and Foreign Engagements in Africa* (Washington, DC: Center for Strategic and International Studies, November 2011), available at <https://csis.org/files/publication/111122_Freeman_ChinaEmergingGlobalHealth_Web.pdf>.

[16] JoAnne Wagner, "'Going Out': Is China's Skillful Use of Soft Power in Sub-Saharan Africa a Threat to U.S. Interests?" *Joint Force Quarterly* 64 (1st Quarter 2012), 99–106.

[17] Deborah Bräutigam, "U.S. and Chinese Efforts in Africa in Global Health and Foreign Aid: Objectives, Impact, and Potential Conflicts of Interest," in Freeman, 1–12.



War Front to Store Front: Americans Rebuilding Trust and Hope in Nations Under Fire

By Paul Brinkley
Turner Publishing Company, 2014
400 pp. $25.95
ISBN: 978-1118239223

Reviewed by Sean Q. Dzierzanowski

Like most junior officers, I prefer my professional military education (PME) action packed and relevant to my immediate Military Occupational Specialty. With that predilection, I assumed that *War Front to Store Front* would be a slog. I thought I should be spending my time reading stories of lieutenants leading understrength platoons on hills surrounded by ruthless enemies, lone aviators on important missions, or the memoirs of a salty and sage veteran of Vietnam or Okinawa.

Perusing the dust jacket, the first few pages, and the black and white pictures, this book appears to be the story of middle-aged businessmen, contractors, and bureaucrats. Indeed, in the first chapter, the author speaks of his high-powered career in Silicon Valley and outsourcing jobs to the Third World. I assumed the book would be about a Washington, DC–concocted, acronym-rebuilding industry, not warfighting.

In spite of my biases, Paul Brinkley's story of the Task Force for Business and Stability Operations (TFBSO) has all the trappings of the books dominating professional reading lists. It is about leadership. It is about a small team of idealistic professionals given a mission in an alien and austere environment. It is a story of a man fighting an incompetent bureaucracy and his own self-doubt. Throughout the book, we are brought into the war rooms of Generals David Petraeus, Raymond Odierno, and Stanley McChrystal. The reader is a fly on the wall during meetings with President George W. Bush and Hamid Karzai and Defense Secretary Robert Gates. In short, *War Front to Store Front* is an entertaining account that moves.

I was too young or else in college for the Iraq War. Like many Servicemembers of my era, most of what I know about Iraq comes from books, the news, and discussions with veterans. Much of my previous reading details the fiasco of disbanding the Iraqi army and purging Ba'athists from the Iraqi civil service. *War Front to Store Front* highlights a lesser known but equally shortsighted postinvasion mistake: the dismantling of the Iraqi economy. After the invasion and in the name of economic "shock therapy," the Coalition Provisional Authority (CPA) seized funds from state-owned enterprises, removed tariffs on imports, and relied on American contractors for much of the work of rebuilding Iraq. Once healthy but now capital-starved state-owned industries closed. Thousands of Iraqis were unemployed or saw their wages slashed. Discouraged and unable to provide for their families, they had no one to blame but the Americans. The CPA's economic edicts frame the work and frustrations of the TFBSO for much of the book.

In spite of focusing on this mistake, *War Front to Store Front* avoids the habit of many books on Iraq and Afghanistan—dwelling on the blunders of a handful of leaders without offering solutions. Brinkley provides an optimistic look at how American business can be a supporting effort of American foreign policy. An appendix includes a list of the TBSFO accomplishments ranging from opening training academies for farmers and management, to facilitating trips to Iraq for Google and YouTube executives, to helping rebuild gas pipelines in Afghanistan. An entire chapter is dedicated to practical solutions on how the United States can improve postconflict reconstruction and foreign aid. Unlike many authors writing about a mistake, Brinkley offers thorough and even analysis along with remedies.

After every war, Americans hear a litany of "never agains." It is assumed after the Iraq War that America will never again commit to a large-scale invasion and occupation. A cursory glance through U.S. history reveals that such guarantees are myopic. The only way to adapt in spite of drawdowns and other circumstances is for military and civilian leaders to take their professional reading seriously and be receptive to history's lessons. Brinkley's book is not your average PME text. It is, however, an important addition to the volumes written on the Iraq War.

Aside from war, this book shows how America can be a force for good in the world. The path is not exclusively through overthrowing genocidal regimes or forcing elections or passing out pallets of Meals Ready to Eat and candy, but rather by rebuilding industry—with strong industry come jobs, along with the self-respect of a paycheck. This self-respect cannot be quantified but it can destroy an insurgency. Who better to teach the gospel of capitalism than an American businessman wearing penny loafers and holding an issue of *Forbes*? **JFQ**

First Lieutenant Sean Q. Dzierzanowski, USMC, is a Student Naval Aviator (VT-35) at Naval Air Station Corpus Christi.

Consider: Harnessing the Power of Reflective Thinking in Your Organization

By Daniel Patrick Forrester
Palgrave Macmillan, 2011
238 pp. $22.92
ISBN: 978-0230106079

Reviewed by Richard M. Meinhart

Consider succinctly articulates the need for senior leaders to create "think time" and to reflect in their personal schedules and organizational processes. Forrester firmly believes that "embracing think time and reflection as habits and organizational capabilities will determine success or rapid failure in the twenty-first century." He supports this perspective through interviews with 55 successful people with varied experiences and identifies these individuals in the acknowledgments section. They include business and military leaders, musicians and designers, academics and economists, and advisors and diplomats.

The book is organized logically starting with an introduction to clearly set its context and focus, which is followed by 10 short chapters of about 20 pages each. These chapters illustrate particular aspects of the value of think time and reflection and explain ways to embed these practices within an organization's climate and culture. The author concludes the insightful introduction by articulating in six sentences what to expect from the book while encouraging the reader to "think with me for a while."

In the first chapter, aptly titled "The Human Need for Think Time," Forrester clearly identifies the need for reflection. He engages readers with what they may already know by describing how little time we have to really think and reflect because of longer work days, drowning in data and information enabled by technology, and the 24/7 news cycle. He broadly identifies ways to address these challenges by citing succinct comments from a variety of successful people. He also provides specific leadership vignettes to illustrate the value of providing think time, examining former Commandant of the Coast Guard Admiral Thad Allen's experiences with organizing the U.S. response to the British Petroleum Gulf oil spill and renowned violinist Joshua Bell's performance routine. Forrester routinely brings in different types of experiences; hence, the book has a broader appeal as different readers can relate to different vignettes.

In chapter two, Forrester identifies ways to force think time in an individual's schedule by illustrating how Abraham Lincoln, David Petraeus, Bill Gates, and current Microsoft CEO Steve Ballmer, among others, used various techniques to accomplish this. He concludes this chapter by identifying six questions and issues leaders need to consider should they want to mandate that subordinates take time for reflection. This technique of telling compelling stories and short vignettes to frame the issue, which is followed by specific lessons to apply at the chapter's end, is also used in other chapters, and helps the reader gain closure on the relevancy and use of various insights. In essence, he identifies *What?* and *Why?* from reflective interviews and concludes with *So what should I do?*

In three other chapters, Forrester examines the value of reflection from three different venues in greater detail. In essence, these are mini–case studies vice short vignettes. From a business viewpoint, he focuses on how ideas are nurtured at Google and how think time is embedded at Whirlpool. Leaders of these two very different organizations use different ways to identify and address ideas about using think time and reflection. From a financial viewpoint, he provides insights from two financial thinkers who provided unwelcome views associated with the dizzying run-up to the financial collapse. Since their analysis went against the cognitive bias and anchoring that generally existed in the financial sector, their ideas were not reflected upon or valued. In another chapter, he examines how Generals David Petraeus and James Mattis provided time to contemplate the nature of war when developing counter-insurgency doctrine for the Army and Marine Corps from late 2005 to early 2007. They examined existing warfare assumptions, gathered different views, and got people out of their comfort zones to examine paradoxical perspectives before publishing the new doctrine. Using these three examples, combined with the succinct lessons at each chapter's ending, Forrester provides insights that can be applied to a wide range of issues.

Chapter nine, titled "Reflection in Extreme Situations," makes the case that reflection needs to be embraced in pressure-filled and consequential situations so that it trumps fear and anxiety and provides three examples. The first articulates the importance of commander's intent using insights from General Mattis in Iraq in 2003 and General Petraeus in Afghanistan in 2010. The second example is from a former street hustler who teamed with an epidemiologist to address gang violence in Chicago. The last is from a mediator who could bring diverse groups to accord while refereeing emotional cases under short timelines.

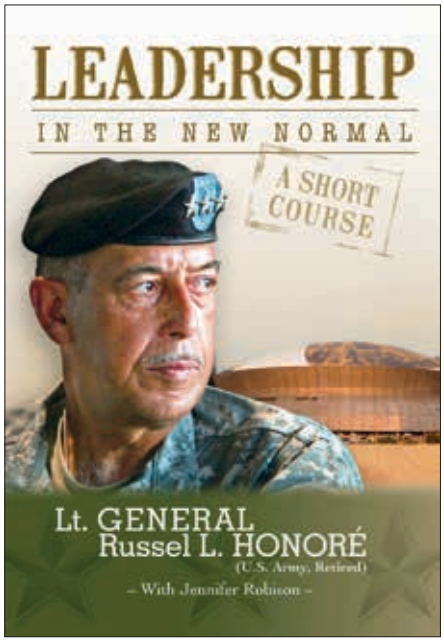
The last chapter concludes with five guideposts to provide evidence that reflection is valued: Technology Versus Human Capacity, Real or Masked Dialogues, Dedicating Time

for Thinking, Leaders Who Walk the Walk, and Cultures of Dissent and Deep Thinking.

The book's strengths are the diverse perspectives, interviews with key leaders to support the author's argument, and the lessons learned and questions that need to be answered at each chapter's end. The main weakness is the lack of analytical data in comparing the success of organizations that have think time in their cultures with those that do not. Perhaps these data do not exist.

The book's relatively short chapters are written in a storytelling style, which is a compelling way to convey the value of think time and reflection. The author seems to be having a conversation with the reader as opposed to lecturing or aggressively pushing a specific way to provide think time. National security or senior military leaders will find this book relevant to their professions. The insights and examples make the link from the conceptual to the practical as leaders reflect about their own experiences. We learn from others' failures and successes, and many are identified throughout, some with short vignettes and others in relative detail. **JFQ**

Dr. Richard M. Meinhart is Professor of Defense and Joint Processes at the U.S. Army War College.



Leadership in the New Normal: A Short Course

By Russel L. Honoré, with Jennifer Robison
Acadian House Publishing, 2012
183 pp. $16.95
ISBN: 978-0925417817

Reviewed by Gerald L. Mitchell

Leadership in the New Normal is a short course in leadership in which the author traces good to great leadership attributes in such forefathers as George Washington and Abraham Lincoln, and by doing so he really describes the nature of leadership itself. Lieutenant General Honoré, USA (Ret.), postulates that we won our freedom because of leadership during the critical times in our history, such as Valley Forge and the Civil War, and leadership will continue to help us as we transition to the next "new normal" period.

From history and from his own vast experiences in tough command and staff assignments, Honoré shares his thoughts about the first three lessons of leadership:

- good leaders learn to do the routine things well
- good leaders are not afraid to act even when criticized
- good leaders are not afraid to take on the impossible.

The author backs up his assertions with historical examples and with his own highly publicized experiences as commander of Joint Task Force Katrina. He provides a framework for success through leadership, whether it is at the national security level, in the military, in the business world, or inside a family. His motto of "See first, Understand first, Act first" is described in terms of understanding the environment, understanding what is important, and understanding how to determine the best course of action, solution, or option as fast as possible. He also describes how to get subordinates to buy in to the mission. The leadership he portrays is applicable to any and all types of organizations—even at home (and maybe most importantly there).

The story is told of a prize pig that has a leadership lesson for us as we wrestle with the dilemma of resource constraints—near-term, instant gratification versus long-term growth and development. Every organization from the government, military, businesses, and education system faces this dilemma.

What is unique about Honoré's instruction is that he tackles the difficult issues with an old-fashioned common sense approach. What is the nature of leadership? What are the crucial lessons gleaned from the study of some of our nation's greatest leaders? How do the important aspects of leadership change with the strategic and global environment? How do leaders instill a philosophy and culture of "mission command" in their subordinates and organizations? How do they know and recognize the right problems to solve? How do they motivate their people? What does education have to do with leadership in government, the military, or business?

The author takes on these questions in sequence. Chapter 1 describes his take on the "nature of leadership." He goes back to our nation's beginning and uses George Washington's ability to lead "a rag-tag army" to victory over a far

superior British force. In chapter 2, he extrapolates critical leadership lessons from decisive points in our history that are just as vital today. He writes, "No great change comes without leadership and sacrifice."

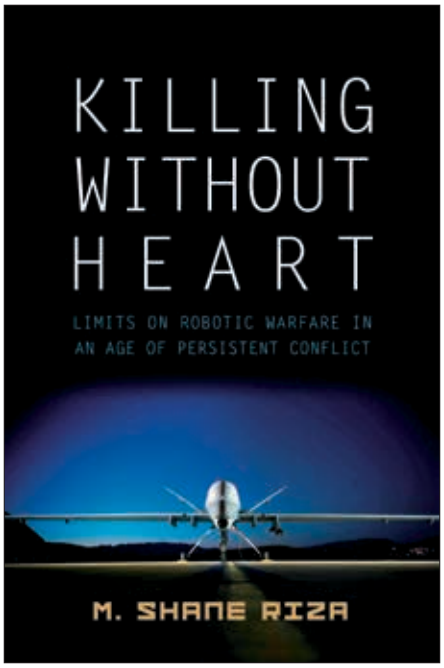
Chapter 3 explores the notion that our nation transitioned through change constantly, always adapting to the new normal, and that leaders must recognize change to be successful. The general describes the key variables he sees in America's latest new normal and expands this discussion to the global environment in chapter 4. How have "extreme population density, the incredibly fast transmission of information, the rise of terrorism, the interconnectedness of business, and the growth of the ranks of the poor" created the new normal and shaped the global environment of today and the near future? The author offers his keen insights on causes and effects and correlations.

Honoré's 37 years of service in demanding command and staff assignments under tremendously adverse conditions (think of South Korea and Germany in the dead of winter and the desert heat of the Middle East—or perhaps worse, the political firestorm in the aftermath of Hurricane Katrina) shaped his understanding of leadership in changing environments. What leaders learn about leadership itself and mission command when trying to inspire subordinates to accomplish a mission when they are cold, wet, hungry, and tired is invaluable. Honoré shares his lessons learned and answers questions in chapters 5 through 8, which concern how leaders instill a culture of mission command in their subordinates and organizations, how leaders know and recognize the right problems to solve, and how leaders motivate their organizations.

One of the author's most passionate themes throughout the book is the importance of education in leader development. He points his finger at the education system as the problem behind many of our nation's social issues—but it is also the solution. He is adamant that a sound education will lead to success in life. He closes with sage advice about the importance of practicing good leadership (and followership) at home. Look around at the next retirement ceremony (or funeral) and determine if that individual followed the general's counsel about leadership at work and at home.

This is an easy read with plain and simple language that is packed with lessons for any leader in any capacity. It is a great follow-up to his book *Survival: How a Culture of Preparedness Can Save You and Your Family from Disasters* (Atria Books, 2009). **JFQ**

Associate Professor Gerald L. Mitchell teaches Joint Operations Planning at the Joint Forces Staff College.



Killing Without Heart: Limits on Robotic Warfare in an Age of Persistent Conflict

By M. Shane Riza
Potomac Books, 2013
177 pp. $29.95
ISBN: 978-1612346137

Reviewed by Daniel P. Sukman

The United States faces a stark decision on how to prosecute and conduct future warfare. Accordingly, every national policymaker and decisionmaker should read *Killing Without Heart* to be better informed on the morality of unmanned and autonomous weapons systems. With advancements in technology, the Nation has the capability to continue down the path toward a military of unmanned and autonomous robots on the battlefield. Continuing on this path will isolate the men and women in uniform from the dangers of the modern battlefield, calling into question the morality of how we fight and whether we can achieve national end-states without sending actual people into combat.

Riza provides a detailed analysis of the limits of robots in warfare. First and foremost is the absence of the empathy that will always reside in human beings. Robots lack that sense much as psychopaths do. They do not feel guilt or sympathy or any other emotion when taking a life. When robots kill, the question of who is responsible for the deaths will always be an issue. Employing a robot that mistakenly kills a family at a checkpoint or drops a bomb on a funeral procession can have strategic effects without a definitively responsible party. Is the commander who employed the robot responsible although he did not man, equip, or train the robot? Or is it the designer, the programmer, or nobody?

In addition to the lack of empathy and other feelings unique to human beings, the difficulty in employing lethal robotics on the battlefield is displayed in second-, third-, and fourth-order effects. Soldiers and Marines and fighter pilots on the battlefield must often make instantaneous decisions on the use of lethal force. They consider not only whether someone seen through the scope is an enemy, but also what taking that life will mean for the local populace, the tribal leaders, and the individual's family, and whether taking that life will create more enemies in the long run. It is difficult to imagine that robots will consider such factors or will even have the capability to sort the relevant from the irrelevant.

The author brilliantly contrasts what the U.S. military can achieve today and in

the anticipated future against the morality of its capabilities. Striking enemies from a longer distance using unmanned and autonomous robots removes the element of mutual respect between combatants on the battlefield, which has persisted over time. Without mutual respect, it becomes nearly impossible to conduct dialogue with adversaries. Without dialogue there is no way to achieve endstates, which in turn leads to persistent conflict. Moving to robotic unmanned and autonomous systems removes the risk to combatants on one side of the fight and transfers it to noncombatants on both sides.

Riza warns that in our effort to minimize casualties among our own Servicemembers on the battlefield, we have opened a Pandora's box of unanticipated second- and third-order effects. Are remote pilots in Nevada who are controlling unmanned aerial vehicles in Pakistan legitimate targets on their way to work? More broadly, if our enemy cannot engage us on the battlefield, do Servicemembers become legitimate targets in the homeland? We are taught from the time we are young lieutenants and ensigns that our adversaries adapt. Riza postulates how they may adapt to robots and the risk we take when we remove actual people from combat.

A shortfall in Riza's analysis lies in not explaining some of the practical albeit low-level advantages robotics and autonomous systems provide. They do not get driving-under-the influence citations; they do not return home after a deployment with post-traumatic stress disorder and beat their wives and children; they do not visit the payday loan shops and gentlemen's clubs often found outside military installations. Financially, robots do not need TRICARE benefits, nor do they receive a pension after 20 years of service.

Killing Without Heart leads us to the ultimate conclusion that how we win wars is as important as winning itself. Riza is able to weave in the writings of Michael Walzer and combine his theories of just war with the strategic guidance that today's American military operates under. This is the seminal book for considering the ethics and moral standards of a future battlefield filled with everything but human beings. Riza warns against becoming a nation that is more warlike without becoming a nation of more warriors. **JFQ**

Major Daniel P. Sukman, USA, is a Strategist in the Army Capabilities Integration Center at the U.S. Army Training and Doctrine Command.

Overcoming Joint Interoperability Challenges

By Brian K. Bass, David K. Bartels, Samuel A. Escalante, Dale R. Fenton, and Kurt J. Rathgeb

The expanding variety of ground, surface, and air platforms with Tactical Data Link (TDL) capabilities and the increasing reliance on joint, allied, and coalition forces have driven a growing demand for TDL interoperability training. For decades, the TDLs that combine to form the Multi-TDL Network (MTN) have increased situational awareness while decreasing targeting and decisionmaking timelines for aviation and maritime component commanders, air defense commanders, aircrews, and recently, tactical air control parties. Technological advancements continue to increase the range and mobility of weapons systems; decrease the time required to detect, decide, deliver, and assess; and facilitate near-real-time command and control (C2) from beyond line of sight. Reviewing the communications, concepts, technology, and applications that developed into TDL capabilities leading up to the MTN brings current and future joint interoperability challenges and training requirements into perspective.

Evolution

According to David L. Woods in *A History of Tactical Communication Techniques*, "Since wars began, commanders have sought effective two-way communication directly on the battlefield. The enemy must be located, his strength must be determined, and the field commander must receive this information promptly. Then, based on this information, the commander's instructions must reach his men."[1] Prior to the invention of electrical telecommunications in the 1830s, commanders relied on what they could see with their own eyes and information received via couriers to create and update their maps and terrain models to support operational and tactical planning and decisionmaking. The telegraph and later the telephone and radio enabled commanders to receive more timely updates. During the U.S. Civil War, balloons initially helped make maps more accurate. However, on at least one occasion a balloon was used to direct artillery fire from a Union location without line of sight to a Confederate encampment. The balloon, named *Eagle*, was attached via tether and telegraph to Fort Corcoran near Falls Church, Virginia.[2] A Union artillery battery was located at the easterly advance to the fort. In this incident, through use of a series of predetermined flag signals, artillery fire was directed at the nearby Confederate encampment until the shots landed on target. This was a first among the foundational communications concepts that would evolve into modern TDL applications.[3]

The integration of air defense assets during World War II also formed a conceptual basis for sharing tactical data. The United Kingdom (UK) integrated Chain Home radar stations, observer posts, air defense artillery batteries, and Royal Air Force intercept squadrons via an extensive wire and radio communications system. Voice cross telling of aircraft position data effectively integrated or linked the air defense network and was the key to the UK's survival and victory. At the strategic planning core of the British integrated air defense system, radar plots were correlated to provide range and direction of raids from radar by triangulation. Positive control became possible by using radar plots, identification, friend or foe (IFF), signals from squadrons in the air, and high frequency and later clear very high frequency radio transmissions. Aircraft were directed by sector controllers until enemy aircraft were within visual contact, at which point the squadron commanders assumed control of the air battle. By 1943 aircraft losses required the German Luftwaffe to end offensive operations and focus almost exclusively on defense of the home territory.[4]

The use of radar generated large amounts of information about enemy locations; however, in the early days of radar, this information was displayed by way of the sensor's organic display or manually generated drawings and models. Transmitting this information between operations centers required voice communications to cross tell information among plotters who manually transcribed aircraft locations and tracks onto maps. The development of data communications and automation in the decades following World War II not only enhanced the timeliness and accuracy of communications, increasing speed to real-time or near-real-time, but also enabled more information about friendly and enemy forces and other entities to be transmitted along with track data.

The post–World War II period saw an increased need for the ability to disseminate information more quickly

Brian K. Bass is Program Manager of the Joint Interoperability Division. Major David K. Bartels, USAF, is Branch Chief of the Joint Multi-Tactical Data Link School. Lieutenant Colonel Samuel A. Escalante, USA, is Branch Chief of the Allied Training Branch. Major Dale R. Fenton, USMC, is Deputy Branch Chief of the Allied Training Branch. Major Kurt J. Rathgeb, USAF, is Branch Chief of Training Support.

and with greater precision. Whereas air defense artillery and defensive air formations used radio to communicate voice commands to cue their fires on incoming enemy planes, jets and rockets moving at supersonic speeds required information exchanges that supported not only the commander's decisionmaking but also the pilots engaged in the fight. Building toward that end, arguably the first modern TDL, known today as Link 11, was introduced about 1955.

TDL

Link 11, once known as TADIL A and now often referred to as TDL A, provided warfighters the capability to disseminate track data and other information using a roll-call method, where a network control station sends and receives information sequentially from network participants. If a participating unit does not answer the first time, the information exchange cycle is lengthened as the computers keep seeking a response before moving to the next participant. While improving the speed of information exchange, it was implemented within larger C2 platforms and did not share information with smaller platforms such as fighter aircraft. Furthermore, Link 11 lacked the capacity to pass the volume of information that later surveillance systems such as the Airborne Warning and Control System (AWACS) could generate. The requirements for greater information volume or bandwidth, speed of transmission and reception, information assurance (encryption), and jam resistance were addressed with the advent of Link 16.

The earliest derivative of Link 16, also known as TDL J, was introduced in the late 1970s. Link 16 not only enhanced warfighters' capability of near-real-time dissemination of critical information such as locations and directions of blue and red force aircraft movements, but also enabled the exchange of additional data regarding platform and weapons status, bomb damage assessment, and other mission critical information. Link 16 has become part of the digital communications architecture for U.S. and some allied forces to find, fix, track, target, engage, and assess ballistic missiles. At the heart of Link 16 are the Joint Tactical Information Distribution System/Multifunctional Information Distribution System (JTIDS/MIDS) radios that transmit data according to a language known as J series messages using Time Division Multiple Access protocols that enable multiple users to send and receive information seemingly simultaneously in programmed timeslots.[5]

Specific JTIDS/MIDS platform timeslot programming is based on a given network participant's roles and responsibilities. For example, an AWACS aircraft tracks objects in the air via its radar and constantly sends updated track information to fighters under its control, Air Defense Artillery units, or other C2 agencies such as the Marine Corps' Tactical Air Command Center. The Link 16 network programming instructions for the AWACS would include sufficient timeslot assignments to meet mission requirements and expected information volume. Other platforms in the network that require this information would be programmed to receive at sufficient intervals to meet their mission requirements. Numerous JTIDS/MIDS-equipped Link 16 platforms were designed with the ability to forward data between Link 11 and various other links, essentially making Link 16 the backbone of what is known as the Multi-TDL Network.

The MTN and Interoperability

Doctrinally, the TDLs comprising the MTN are Links 16, 11, and 11B as the primary interfaces. The MTN also includes extended interfaces such as the Situation Awareness Data Link, Link 22, Army Tactical Data Link, and North Atlantic Treaty Organization Link 1. The MTN is among the networks that feed into the databases that produce the common operational picture and common tactical pictures. TDLs have been primarily employed by assets of the air and maritime components; however, land and special operations components with new and varied tactical platforms, along with allied and coalition partners, are increasing their participation in the MTN.

The MTN will be in use for the foreseeable future. The use of Link 16, in particular, will expand to include emerging capabilities such as net enabled weapons, TDL-equipped rotary-wing aircraft and unmanned aircraft systems, and integrated air and ballistic missile defense platforms. In this last emerging capability, the MTN will support multiple systems and decisionmakers to better address the missile threat. This expansion into new areas presents interoperability challenges for network designers and warfighting planners as the capabilities and complexity of C2 information systems increase.

Interoperability is "the ability of systems, units, or forces to provide services to and accept services from other systems, units, or forces and to use the services so exchanged to enable them to operate effectively together."[6] Interoperability among maneuvering joint, allied, and coalition forces with diverse and dynamic organizational structures, along with expanding TDL capabilities and applications, implies numerous challenges. Fielding new and varied TDL equipment and applying new tactics, techniques, and procedures (TTP) can enhance interoperability; however, this is a double-edged sword due to the effects on MTN Information Exchange Requirements (IERs).[7]

IERs are "essential to command and control; enabling the situational needs of the joint task force and component commanders to support force employment and decision making."[8] IERs identify who will exchange data, what data will be exchanged, why the data are important, and how data will be exchanged. Fulfilling the operational commanders' IERs contributes to the situational awareness needed for decisions on the maneuver of forces and use of resources. At the tactical level, fulfilling IERs informs critical decisions that lead up to and include targeting the enemy. The timeliness requirements of an IER are related to the speed of decisionmaking needed to achieve desired effects. How the data will be exchanged depends on factors that include the volume or bandwidth needed, geographic locations, equipment capabilities and limitations,

TTPs, and security concerns. Operational effects on IERs, including increases in theater size, range of the weapons systems, active environments, number of TDL platforms, amounts of data, and fidelity requirements, along with decreases in the time to discover, decide, and act, combine with lag-times in the acquisition process to further compound interoperability problems. Figure 1 shows operational effects on IERs.

The acquisition process creates baseline changes intended to improve TDL platform capabilities to fulfill existing and emerging IERs. In the process, one set of equipment may advance ahead of the others. Maintaining interoperability with legacy or old-technology equipment often requires a patch, which may come in the form of a forwarding capability where messages are translated from one format or standard to another—for example, when several Link 16 capable platforms are also capable of forwarding data via Link 11 and Link 11B. Unfortunately, some data loss occurs in this process because legacy TDLs are not designed to handle as much information as Link 16. The myriad of changing TDL system capabilities and limitations, numerous workarounds, and IERs that must be facilitated to ensure interoperability requires a staff that includes trained Joint Interface Control Officers (JICOs), MTN planners, and TDL operators. Figure 2 depicts acquisitions lag-time and workarounds.

Each combined or joint component headquarters, usually the Air Component headquarters responsible for the preponderance of C2 and communications capabilities, includes a Joint Interface Control Cell (JICC), led by a JICO, whose primary duty is the overall management of the MTN to meet commanders' IERs. The JICO is usually an O-3 or O-4 and manages the MTN across component, Service, and national lines by direct liaison authority. The authority and functionality of the JICO and JICC are based on expertise from training and experience as well as cooperation derived from joint doctrinal relationships, TTPs, lessons learned, best practices, and precedence.

Figure 1. Operational Effects on IERs

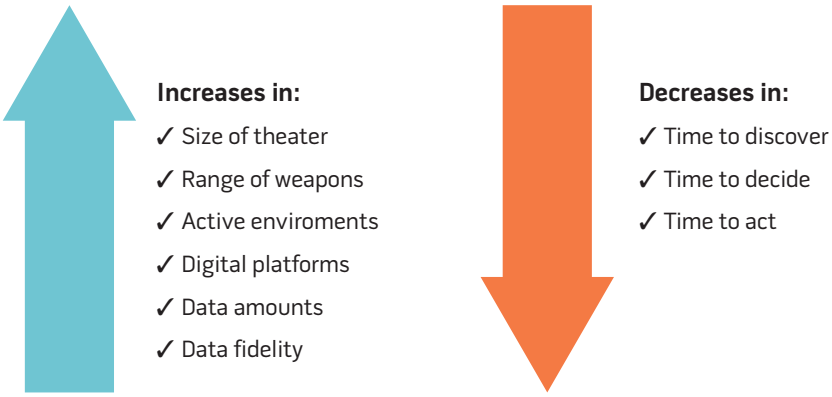
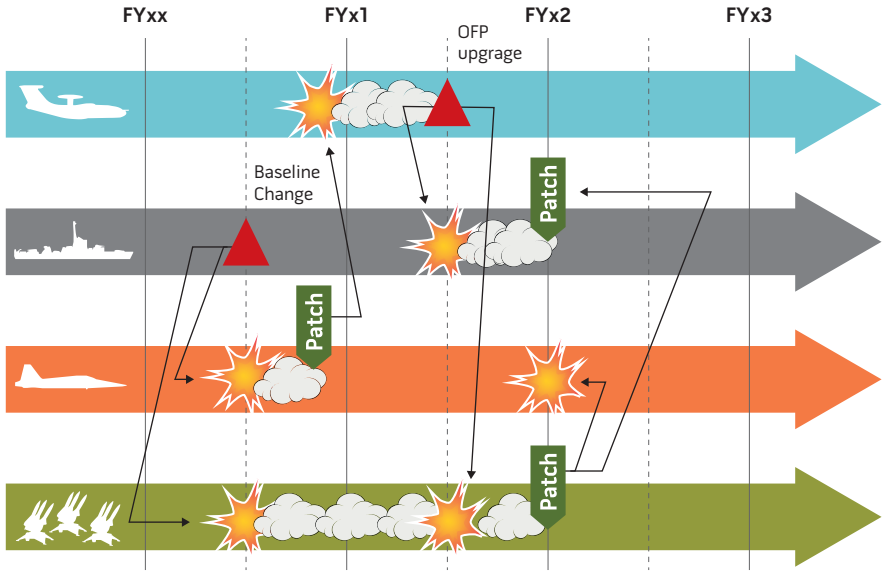


Figure 2. Acquisitions Lag-Time and Workarounds



Training

The complexity of the MTN requires JICOs and a wide variety of MTN planners and TDL operators. These planners and operators are highly technically trained to meet IERs and mitigate the myriad of TDL interoperability problems associated with the various joint and coalition systems. They do this to maximize MTN capabilities across U.S., coalition, and allied platforms and rely on a mix of modern and legacy TDL equipment. MTN operators and planners include both officers and enlisted. They are found in a variety of occupational fields including air defense, aviation, C2, and communications. Additionally, an increasing number of allied and coalition partner nations, including the UK, Australia, Saudi Arabia, and Japan, to name a few, are using Link 16 and legacy TDLs along with other MTN capabilities.

There is only one Department of Defense (DOD) organization for joint and coalition training of MTN operators, planners, JICOs, and JICC personnel. The Joint Staff J7, Joint Interoperability Division (JID)—with a staff of fewer than 60 total personnel comprised of Active-duty military, DOD civilians, and contractors—trains U.S. personnel from the joint combatant commands, Services, and DOD agencies (C/S/As) as well as

How to Request Support

The Joint Interoperability Division (JID) Joint Interoperability Training Center is located on Pope Army Air Field, Fort Bragg, North Carolina. Personnel from joint combatant commands, the Services, and Department of Defense (DOD) agencies who want training or Tactical Data Link (TDL)/Multi-TDL Network support should contact their respective Service quota managers or network design facilities:

- Army: DSN 312-424-7725, Comm 910-394-7725
- Marine Corps: DSN 312-424-1172, Comm 910-394-1172
- Navy Detailer: training en route to PCS, DSN 312-882-3906, Comm 901-874-3906
- Navy East Coast: Fleet Forces Command (quota manager for 2nd, 4th, and 6th Fleets), DSN: TBD, Comm: 757-445-1561
- Navy West Coast: 3rd Fleet (quota manager for 3rd, 7th, and PACFLT), DSN 312-577-4317, Comm 619-767-4317
- Air Force: HQ ACC/A3YJ, DSN 574-8328/29, Comm 757-764-8328/29
- Joint billeted military, DOD civilians (General Schedule), DOD-sponsored contractors, and other U.S./U.S. Government personnel or general JID inquiries: Joint Staff J7/JED/JID, DSN 312-424-1209, DSN FAX 312-424-1208, Comm 910-394-1209/1208.

Two JID courses are offered on the Web via Joint Knowledge Online (JKO) for anyone with a U.S. Government Common Access Card:

- Link 16 Basics Course (J7S-JT100)
- Link 16 Joint Interoperability Course (J3OP-US109/US109LB).

Both are available at <https://jkodirect.jten.mil/Atlas2/faces/page/login/Login.seam>.

Additionally, the JID maintains a large Web presence with information about the latest course schedules and contact information at the sites:

- Facebook at <www.facebook.com/#!/pages/Joint-Interoperability-Division/13426208344744242>
- milSuite at <www.milsuite.mil/book/groups/joint-interoperability-division-jid>
- U.S. Message Text Format Community of Interest on JKO (via Army Knowledge Online) at <www.us.army.mil/suite/page/524917>
- Fort Bragg Public Affairs Officer at <http://pao.bragg.army.mil/units/JID/Pages/default.aspx>
- JID Community of Interest on JKO (via Army Knowledge Online) at <www.us.army.mil/suite/page/508203>
- Joint Electronic Library+ at <https://jdeis.js.mil/jdeis/index.jsp?pindex=100>
- LPDS at <https://lpds.jten.mil/>.

coalition and allied partners through the Foreign Military Sales process. The sidebar shows how to request support.

The JID is organized into three branches to provide joint and coalition MTN training as well as MTN support to the global combatant commands (GCCs): the Joint Multi-TDL School (JMTS) for Joint/U.S. MTN training; Operations Support Branch (OSB) for U.S. JICO training and GCC support; and Allied Training Branch (ATB) for allied and coalition MTN and JICO training. A single education and training curriculum and development process ties these branches together and ensures standardization and currency of information among all courses. The JMTS provides expert Joint Multi-TDL and U.S. Message Text Format training to approximately 1,450 students annually in support of C/S/As. The OSB builds on JMTS training to provide operational tactical data link interface support and training to GCCs and the Services and has trained over 530 JICOs and JICC operations personnel since 2004. The ATB leverages the JMTS curriculum to develop and conduct TDL interoperability training in accordance with foreign disclosure policies for allied and coalition partner nations through Foreign Military Sales via Mobile Training Teams. In 2013, the ATB trained 547 foreign students.

Joint interoperability training within the JID is multifaceted, covering operational, system, technical, and procedural aspects. JID courses touch on all levels of interoperability. JID training progresses from advanced Link 16 and MTN operations through joint MTN planning and culminates with TDL career capstone courses to train GCC and joint task force JICOs and advanced JICC operators. Students are presented scenarios that include MTN-capable units, platforms and systems from all Services, and a diverse sampling of allied and coalition partner nations. The training emphasizes the Multi-TDL Architecture (MTA) and MTN operations to account for and leverage the differences in TDL capabilities and TTPs. The JID's TDL interoperability training produces graduates who understand the process of designing interoperable MTAs that enable MTN operations to meet the commanders' IERs in an allied/coalition operating environment.

The JID, through its three branches, has trained more than 20,000 DOD personnel in joint interoperability since its inception in 1979. Allied and coalition interoperability training began in 2004, and more than 3,200 personnel from partner nations have been trained to be interoperable with U.S. forces in combined operations. More than 5,800 total personnel representing all MTN participating C/S/As and many allied/coalition nations have been trained in TDL interoperability since the JID was assigned to the Joint Staff J7 in 2011. Since 2011, a savings of more than $4.6 million in temporary duty assignment funds has been realized by DOD due to JID Joint Mobile Training Teams taking MTN interoperability training to more than 800 joint students in the various GCC areas of responsibility.

The JID maintains a relevant and evolving Joint Tactical Operations Interoperability Training program that is responsive to C/S/A training

requirements, including student throughput demand. Weekly teleconferences, the annual JICO Symposium, Chairman of the Joint Chiefs of Staff Instruction–mandated Joint Training Committee meetings, and exercise and training planning conferences maintain a routine and recurring dialogue and exchange of information with C/S/As. These venues combined with friendly exchanges between members of the JICO and TDL operators' professional community—such as Service network design facilities, training quota managers, various platform/TDL subject matter experts, JID students, and JID cadre—keep the JID apprised of the latest developments in doctrine, TTPs, and TDL system capabilities and limitations. The JID continues to develop and train joint, allied, and coalition personnel to meet the dynamic joint interoperability challenges within the MTN after nearly four decades. JFQ

Notes

[1] David L. Woods, *A History of Tactical Communication Techniques* (Orlando, FL: Martin-Marietta Corp., 1965).

[2] The capability of using the telegraph from a balloon was developed in June 1861.

[3] *Appleton's Annual Encyclopedia and Register of Important Events of the Year: 1862* (New York: D. Appleton & Company, 1863), 184.

[4] Charles G. Crawley, *How Did the Evolution of Communications Affect Command and Control of Airpower 1900–1945?* (Carlisle Barracks, PA: U.S. Army War College, April 1, 1996).

[5] J2.0 Indirect PPLI, J2.2 Air PPLI, J2.X Surface PPLI, J2.5 Land PPLI, J3.2 Air Track, J3.3 Surface Track, J3.5 Land Track/Point, and so forth.

[6] Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms* (Washington, DC: The Joint Staff, November 8, 2010, as amended through March 15, 2014).

[7] Chairman of the Joint Chiefs of Staff Memorandum 3115.01C, "Joint Data Network (JDN) Operations: Volume I," November 16, 2011.

[8] Ibid.

Joint Publications (JPs) Under Revision (to be signed within 6 months)

JP 2-01.3, *Joint Intelligence Preparation of the Operational Environment*

JP 3-02, *Amphibious Operations*

JP 3-02.1, *Amphibious Embarkation and Debarkation*

JP 3-05, *Special Operations*

JP 3-09.3, *Close Air Support*

JP 3-10, *Joint Security Operations in Theater*

JP 3-13.2, *Military Information Support Operations*

JP 3-26, *Counterterrorism*

JP 3-40, *Countering Weapons of Mass Destruction*

JP 3-52, *Joint Airspace Control*

JP 3-63, *Detainee Operations*

JP 4-10, *Operational Contract Support*

JPs Revised (signed within last 6 months)

JP 1-05, *Religious Affairs in Joint Operations* (November 20, 2013)

JP 2-0, *Joint Intelligence* (October 22, 2013)

JP 3-06, *Joint Urban Operations* (November 20, 2013)

JP 3-07.2, *Antiterrorism* (March 14, 2014)

JP 3-11, *Operations in Chemical, Biological, Radiological, and Nuclear Environments* (October 4, 2013)

JP 3-24, *Counterinsurgency* (November 22, 2013)

JP 3-29, *Foreign Humanitarian Assistance* (January 3, 2014)

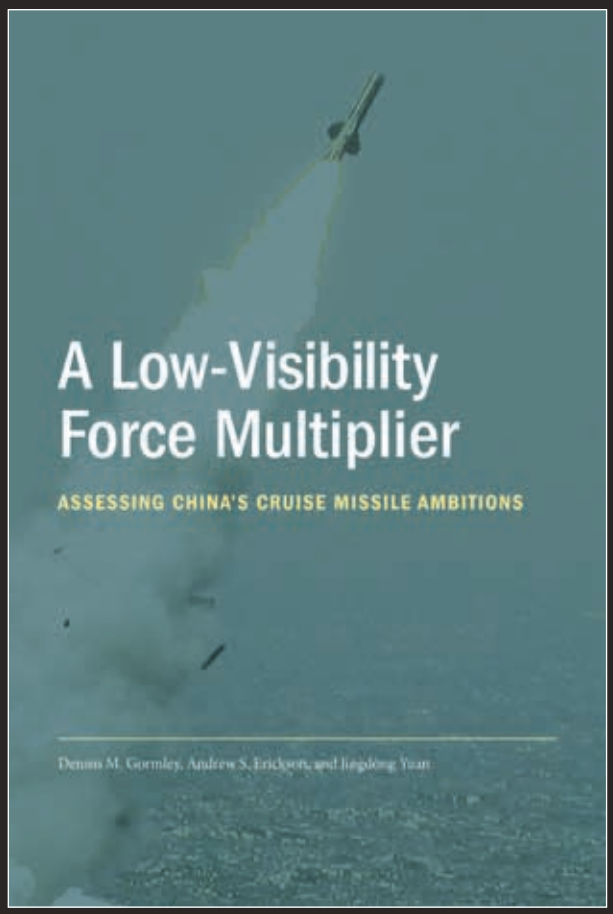
JP 3-30, *Command and Control for Joint Air Operations* (February 10, 2014)

JP 3-31, *Command and Control for Joint Land Operations* (February 24, 2014)

JP 4-0, *Joint Logistics* (October 16, 2013)

JP 4-05, *Joint Mobilization Planning* (February 21, 2014)

JP 4-09, *Distribution Operations* (December 19, 2013)



NEW from NDU Press

A Low-Visibility Force Multiplier:
Assessing China's Cruise Missile Ambitions
By Dennis M. Gormley, Andrew S. Erickson, and Jingdong Yuan

China's military modernization includes ambitious efforts to develop antiaccess/area-denial (A2/AD) capabilities to deter intervention by outside powers. Highly accurate and lethal antiship cruise missiles and land-attack cruise missiles carried by a range of ground, naval, and air platforms are an integral part of this counter-intervention strategy. This comprehensive study combines technical and military analysis with an extensive array of Chinese language sources to analyze the challenges Chinese cruise missiles pose for the U.S. military in the Western Pacific.

"Cruise missiles are key weapons in China's A2/AD arsenal, providing a lethal precision-strike capability against naval ships and land-based targets. The authors use hundreds of Chinese language sources and expertise on cruise missile technology to assess China's progress in acquiring and developing advanced antiship and land-attack cruise missiles and to consider how the People's Liberation Army might employ these weapons in a conflict. Essential reading for those who want to understand the challenges China's military modernization poses to the United States and its allies."

—**David A. Deptula**, Lieutenant General, USAF (Ret.),
Senior Military Scholar, Center for Character and Leadership
Development, U.S. Air Force Academy

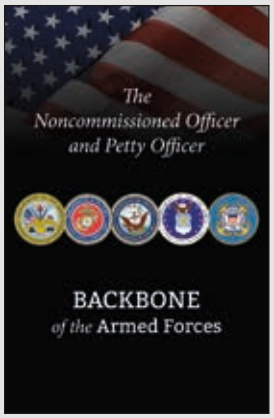
"This volume is a major contribution to our understanding of Chinese military modernization. Although China's ballistic missile programs have garnered considerable attention, the authors remind us that Beijing's investment in cruise missiles may yield equally consequential results."

—**Thomas G. Mahnken**, Jerome E. Levy Chair of
Economic Geography and National Security, U.S. Naval War College

"This book provides an excellent primer on the growing challenge of Chinese cruise missiles. It shows how antiship and land-attack cruise missiles complicate U.S. efforts to counter China's expanding A2/AD capabilities and are becoming a global proliferation threat. The authors also demonstrate just how much progress China has made in modernizing and upgrading its defense industry, to the point of being able to develop and produce world-class offensive weapons systems such as land-attack cruise missiles. This book belongs on the shelves of every serious observer of China's growing military prowess."

—**Richard A. Bitzinger**, Coordinator, Military Transformations Program,
S. Rajaratnam School of International Studies, Singapore

Available online at ndupress.ndu.edu/Portals/68/Documents/Books/force-multiplier.pdf



The Noncommissioned Officer and Petty Officer: Backbone of the Armed Forces

NDU Press, 2013 • 176 pp.

A first of its kind, this book—of, by, and for noncommissioned officers and petty officers—is a comprehensive explanation of enlisted leaders across the United States Armed Forces. It balances with the Services' NCO/PO leadership manuals and complements *The Armed Forces Officer*, the latest edition of which was published by NDU Press in 2007. Written by a team of Active, Reserve, and retired enlisted leaders from the five Service branches, this book describes how NCOs/POs fit into an organization, centers them in the Profession of Arms, defines their dual roles of complementing the officer and enabling the force, and exposes their international engagement. As Chairman of the Joint Chiefs of Staff General Martin E. Dempsey writes in his foreword to the book, "We know noncommissioned officers and petty officers to have exceptional competence, professional character, and soldierly grit—they are exemplars of our Profession of Arms."

Aspirational and fulfilling, this book helps prepare young men and women who strive to become NCOs/POs, re-inspires currently serving enlisted leaders, and stimulates reflection by those who no longer wear the uniform. It also gives those who have never served a comprehensive understanding of who these exceptional men and women are, and why they are known as the "Backbone of the Armed Forces."

Have you checked out NDU Press online lately?

With 20,000 unique vistors each month, the NDU Press Web site is a great place to find information on new and upcoming articles, occasional papers, books, and other publications.

You can also find us on:

Facebook **Flickr**

Twitter **Pinterest**

Visit us online at: **http://ndupress.ndu.edu**

JFQ is available online at the Joint Electronic Library:
www.dtic.mil/doctrine/jfq/jfq.htm

JFQ
JOINT FORCE QUARTERLY
Published for the Chairman of the Joint Chiefs of Staff by National Defense University Press
National Defense University, Washington, DC
NDU Press