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Trust in Joint Operations

An Interview with Robert O. Work

2016 Essay Competition Winners

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Cover 2 images (top to bottom): President Barack Obama has picture taken with member of U.S. Navy on flight deck of USS *Carl Vinson*, docked at North Island Naval Station in San Diego, California, November 2011 (The White House/Pete Souza); Two F-22 Raptors from 3rd Wing at Joint Base Elmendorf-Richardson, Alaska, conduct approach training, March 2016 (U.S. Air Force/Justin Connaher); New Soldiers arriving for first day of Basic Combat Training with Company F, 1st Battalion, 34th Infantry Regiment, are "welcomed" by drill sergeants from U.S. Army and U.S. Army Reserve on Fort Jackson, South Carolina, August 2016 (U.S. Army Reserve/Brian Hamilton)

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Field artillery cannoneers Lance Corporal John R. Chiri, left, and Corporal John J. Stubbs ram 155mm high-explosive round into breech of M777A2 lightweight howitzer at Combined Arms Training Center Camp Fuji, in Shizuoka, Japan, October 2, 2013, as part of Artillery Relocation Training Program 13-3 (U.S. Marine Corps/Henry J. Antenor)

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M1A1 Abrams main battle tanks, AAVP7 RAM/RS amphibious assault vehicles, and M88A1 Hercules from 26th Marine Expeditionary Unit train during exercise in 5th Fleet area of responsibility, April 23, 2013 (U.S. Marine Corps/Edward Guevara)

The Pace of Change

The ability of the Joint Force to anticipate, recognize, and adapt to change—and to innovate within a rapidly changing environment—is absolutely critical to mission success.

As I reflect back on four decades of service in uniform, it is clear that the pace of change has accelerated significantly. Few things illustrate this more than when I compare my experiences as a lieutenant to those of today's young officers. As a lieutenant, I used the same cold weather gear my dad had in Korea 27 years earlier. The radios I used as a platoon commander were the same uncovered PRC-25s from Vietnam. The jeeps we drove would have been familiar to veterans of World War II and, to be honest, so would the tactics. Despite incremental improvements in weapons and the dawn of the nuclear age, a lieutenant from World War II or Korea would have been comfortable with the exercises I participated in during the 1970s. My infantry company still attacked two-up and one-back on a 300-meter frontage and defended across 1,500 meters. If things were not going as planned, I could quickly find my subordinate leaders, look them in the eye, and make the necessary corrections.

This is not the case on today's battlefield. In fact, there are very few things that have not changed dramatically in the Joint Force since I was a lieutenant.

I was reminded of this several years ago when I visited a Marine lieutenant in Afghanistan. It took nearly an hour by helicopter to travel from the battalion headquarters to his outpost in Golestan, in Farah Province. This platoon commander and his 60 Marines were 40 miles from the adjacent platoons on their left and right. His Marines were wearing state-of-the-art protective equipment and driving vehicles unrecognizable to Marines or Soldiers discharged just 5 years earlier. They were supported by the High Mobility Artillery Rocket System, which provided precision fires at a range of 60 kilometers. The standard for me as a lieutenant was a 105-millimeter cannon at a range of 11 kilometers. Moreover,

the platoon at Golestan received and transmitted voice, data, and imagery via a satellite in real time. Compared to my experience as a regimental commander in Iraq just 5 years earlier, this was hard to believe. When we crossed the line of departure in 2003, there were only four systems in an entire Marine division that provided that capability.

Similar examples can be found across the Joint Force. New technologies are fielded faster than ever before. Leaders at lower and lower levels utilize enabling capabilities once reserved for the highest echelons of command. Tactics, techniques, and procedures are adapted from one deployment cycle to the next.

This accelerated pace of change is inextricably linked to the speed of war today. Proliferation of advanced technologies that transcend geographic boundaries and span multiple domains makes the character of conflict extraordinarily dynamic. Information operations, space and cyber capabilities, and ballistic missile technology have accelerated the speed of war, making conflict today faster and more complex than at any point in history.

While the cost of failure at the outset of conflict has always been high, in past conflicts there were opportunities to recover if something went wrong. In World War I and II, despite slow starts by the Allies, we adapted throughout both wars and emerged victorious. The same was true in Korea. Today, the ability to recover from early missteps is greatly reduced. The speed of war has changed, and the nature of these changes makes the global security environment even more unpredictable, dangerous, and unforgiving. Decision space has collapsed and so our processes must adapt to keep pace with the speed of war.

The challenge we face with North Korea highlights this point. There was a time, not long ago, when we planned for a conflict that might be contained to the peninsula. But today, North Korea's intercontinental ballistic missile, cyber, and space capabilities could quickly threaten the homeland and our allies in the Asia-Pacific region. Deterring and, if necessary, defeating a threat from North Korea requires the Joint Force to be capable of nearly instant integration across regions, domains, and functions.

This means more than just fielding cutting-edge technologies that ensure a competitive advantage across all domains—something we must continue to do. Keeping pace with the speed of war means changing the way we approach challenges, build strategy, make decisions, and develop leaders.

As we approach challenges, we can no longer consider capabilities such as information operations, space, and cyber as an afterthought. These essential aspects of today's dynamic environment cannot be laminated on to the plans we have already developed. They must be mainstreamed in all we do and built into our thinking from the ground up.

The Joint Force must also develop integrated strategies that address transregional, multidomain, and multifunctional threats. By viewing challenges holistically, we can identify gaps and seams early and develop strategies to mitigate risk before the onset of a crisis. We have adapted the next version of the National Military Strategy to guide these initiatives.

Our decisionmaking processes and planning constructs must also be flexible enough to deliver options at the speed of war. This begins with developing a common understanding of the threat, providing a clear understanding of the capabilities and limitations of the Joint Force, and then establishing a framework that enables senior leaders to make decisions in a timely manner.

Underpinning our ability to keep pace with the speed of war are adaptive and creative leaders. In today's complex and dynamic environment, the Joint Force depends on leaders who anticipate change, recognize opportunity, and adapt to meet new challenges. That is why we continue to prioritize leader development by adapting doctrine, integrating exercise plans, revising training guidance, and retooling the learning continuum. These efforts are designed to change the face of military learning and develop leaders capable of thriving at the speed of war.

Adaptation is an imperative for the Joint Force. The character of war in the 21st century has changed, and if we fail to keep pace with the speed of war, we will lose the ability to compete.

The Joint Force is full of the most talented men and women in the world, and it is our responsibility as leaders to unleash their initiative to adapt and innovate to meet tomorrow's challenges. We will get no credit tomorrow for what we did yesterday. **JFQ**

General Joseph F. Dunford, Jr.
Chairman of the Joint Chiefs of Staff

Captain of amphibious transport dock ship USS *Green Bay* speaks with Australian journalists while participating in Talisman Sabre 2015 (U.S. Navy/Derek A. Harkins)

Executive Summary

In my view, our Constitution and the Bill of Rights are two of the most important contributions to our collective human experience. The men who debated and wrestled, word by word, over the contents of these two founding documents used great imagination and creativity. Over the following 228 years since the Constitutional Convention that constructed these works, they have been tested and, when found weak, amended, or in the case of the Civil War, fought over or adapted by our Federal system of laws in which our three branches of government all play important roles. While the exact meaning of the Constitution remains in the eye of each citizen to debate and seek change as needed, I doubt even the most cynical citizen would wish the Constitution did not exist.

One of the most important features of our Constitution is the First Amendment, without which this journal might not exist. Even as we now debate the value of mass media on a range of points from how to deal with fake news, the slow decline of local journalism and investigative reporting, and the role of alternative media in our lives, the simple words of this Amendment allow for a wide and even yet-to-be-discovered set of means and ways for us to communicate with and about each other. "Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances." As a people, we are frequently challenged by those who disagree with our personal views, right down to how we see this Amendment functioning in our society. Members of the military have some additional restrictions on their ability to participate in these debates for very reasonable and important reasons, but they can and should speak their minds when the circumstances require them to do so.

The American military has long functioned to work to solve some of our national crises, especially when our interests are at risk. And as citizens in uniform, their freedom to speak on issues of the day is not completely taken from them when they take an oath to support and defend the Constitution. In fact, in

times of great stress, the Nation relies on the ability of military leaders of all ranks to use their talents—both physical and mental—to help defend itself. After many years of being in the military, I have come to appreciate what makes the better military leaders stand out from the rest: the ability to think critically, creatively, and often originally under great pressure; the ability to speak with an informed and measured voice; the ability to "take the heat" from all directions for what you believe works or could be done to meet the mission; and the ability to learn from the past to make the future better. Without these unique aspects of the American military "mind," I believe the American "experiment" would have ended long ago.

This issue of *JFQ* brings you the best new ideas from and for the Joint Force.

My interview with Deputy Secretary of Defense Robert Work leads off this issue's Forum section. Stanley Springer, John Schommer, and Sean Jones bring us an interesting piece on trust as the real glue that holds joint operations together. Continuing our efforts to bring new thinking on cyber issues, Scott Applegate, Christopher Carpenter, and David West recommend a way to adapt existing concepts from the real world of warfighting to the terrain of cyberspace. Returning to another popular discussion area in these pages, Kevin Ayers provides his take on how to best provide theater ballistic defense in the Asia-Pacific Region.

JFQ next presents the winning essays from the 10th annual Secretary of Defense and 35th annual Chairman of the Joint Chiefs of Staff Essay Competitions, held here at National Defense University (NDU). In May, 23 judges from 14 participating joint professional military education (JPME) institutions met to determine the best JPME student entries among the three categories. The Secretary of Defense National Security Essay winner, Major Lee M. Turcotte, USAF, reviews the history of the internment of Japanese-Americans during World War II. Winning the Chairman of the Joint Chiefs of Staff Strategic Research Paper competition, Lieutenant Colonel David A. Mueller, USMC, discusses the military's responsibilities during operations to achieve post-conflict civil order and governance. Leveraging his personal experiences in Palestine, Lieutenant Colonel Jeffrey Dean McCoy, USA, won the Chairman's Strategy Article competition by discussing options for the future of the Palestinian Security Force.

In JPME Today, two articles celebrate the 70th anniversary of the National War College (NWC). NWC Commandant Darren Hartford and Dean of Faculty David Tretler give us an insider's view of an enduring institution here at NDU, with a very modern focus on educating the next generation of our most senior joint force, interagency, and international military leaders. Janet Breslin-Smith takes us back through National War College's rich 70-year past. On PME itself, Joan Johnson-Freese and Kevin Kelley continue the discussion on how to gauge the value of today's professional military education.

In Commentary, suggesting it is time for a reversal of the current relationship between Army and Air Force forces in combat, Price T. Bingham offers an important discussion on the future of integrated AirLand operations. Extending the discussion of center of gravity as an operational concept, Aaron P. Jackson takes us inside the thinking of our Australian partners as he details their Defence Force's new approach. As the battle against ISIL continues, Michael Reilly has developed a different way to consider the value of center of gravity approaches to defeat these hybrid threats. And reviving an old form of commentary *JFQ* used in the past, Joseph Collins provides us with an extended review of three important current books on general officer leadership.

In Features, Dave Nystrom and Joseph Wojtecki, Jr., with Mat Winter, discuss the importance of how to communicate to gain trust in any effort to accelerate innovation. Regarding global health engagement, Tracey Koehlmoos, Linda Kimsey, David Bishai, and David Lane stress the importance of a systems approach to achieving healthcare success overseas. Wilson VornDick suggests using joint performance evaluations as a way to improve how the military judges its Servicemembers' performance and potential.

Originally an extended book review, I asked my NDU teammate Christopher Lamb to develop this edition's Recall article, which focuses on one of the lesser known but key leaders of our successes in World War II and the man for whom the fort where *JFQ* is produced was named, Lieutenant General Lesley J. McNair. In Joint Doctrine, the Joint Staff's Director of Joint Force Development (DJ7), Kevin Scott, discusses a relatively new and important process for developing civilians in joint military organizations through mentoring. In addition, Michael Hutchens, William Dries, Jason Perdew, Vincent Bryant, and Kerry Moores introduce a new Joint Operational Concept, the Joint Concept for Access and Maneuver in the Global Commons. We also have three excellent book reviews and, as always, our Joint Doctrine Update for your consideration.

One of the enduring aspects of the thinking of James Madison, widely acknowledged as the father of the Constitution and the Bill of Rights, was his view of the power of public opinion. Madison saw public opinion as best expressed by a knowledgeable and strong public through its elected representatives as the basis for effective government. In today's Internet-empowered opinion world with an often anonymous "public," which can include someone who is not a U.S. citizen or even a person, it is increasingly hard to know what the public thinks. In the military, there are few avenues for expression of thought that can reach its decisionmakers. *JFQ* will continue to offer a way for strong and knowledgeable people to express their very best ideas. I am looking forward to hearing from you. **JFQ**

William T. Eliason
Editor in Chief

An Interview with Robert O. Work

JFQ: *You have become well known for your efforts to develop a Third Offset for the United States military. Is the overall intent behind this effort to reestablish conventional deterrence against major competitors or is it something more?*

Robert O. Work was confirmed as the 32nd Deputy Secretary of Defense on April 30, 2014.

DepSecDef Work: Essentially what we are trying to do is reestablish our overall deterrent position. The Nation aspires to achieve comprehensive strategic stability in which the likelihood of a major war between large state powers or a destabilization of the global system is avoided. To do so our strategy must be comprehensive from top to bottom, and, in my view, such a strategy has three big pillars. One is strategic deterrence, which has both a nuclear and a cyber aspect. For cyber, in this regard, cyber capabilities that can be used against another nation's cyber structure that can cause major damage to that nation's social fabric or social functioning of the state. Nonstrategic nuclear weapons are probably in that same category. Next, conventional deterrence is focused on large state powers as well as medium-sized revisionist powers. Conventional deterrence is designed to keep us from having a state-on-state war. The third pillar is managing the strategic environment or the strategic competition. The link between managing the strategic competition and conventional deterrence is crisis management; and the link between conventional deterrence and strategic deterrence is escalation control. So, the Third Offset Strategy is really focused on conventional deterrence. It is future-focused on large state powers such as China and Russia. It is designed primarily to make sure that we never have a nuclear confrontation with those two countries and that we would prevail in any conventional confrontation regardless of the opponent.

We are trying to offset three things that all of us can see in the operational environment. First, because most of our combat power rests in the United States, our adversaries would have an advantage in time and space and initial force correlations. As a result, this is about counter-power projection against states that would push out from their own territory, especially against our own allies, partners, and friends. So, how do we get there and how do we arrest power projection when we are not in the theater ready to fight? That is a tough problem.

Second, there are two pacing competitors—not adversaries—and they have very nearly achieved what we would consider to be parity in the ability to put together theater-level battle networks with a sensor, a C4I [command, control, communications, computers, intelligence] grid, an effects grid, and a logistics and support grid, and be able to fire guided munitions as far as we can. Third, our pacing competitors have spent a lot of money on taking apart our

battle networks because they know how powerful they are. They have invested a lot of money in cyber, electronic warfare, and counter-space capabilities. When you add those three together, you have anti-access/area-denial [A2/AD] capabilities, making it hard to get into the theater and, once you are in theater, making it hard to maintain freedom of action. That is what we are trying to offset. It focuses on our pacing competitors, China and Russia, with the understanding that if we are able to solve that problem, we could solve any regional state problem.

You can have a battle network focused on the fight against global extremists and you can have battle network focused against a regional power, and you can have a battle network focused against a great state power. This ability to have battle networks is transferable across the range of military operations. This drive to enhance and expand battle networks is about trying to offset the fact that our big state adversaries can put together networks like this already. The Defense Science Board [DSB] said the way you offset those competitor networks is to inject artificial intelligence [AI] and autonomous systems into your battle network. The result should be a step function increase in effectiveness, which in turn should increase your effectiveness relative to your potential competitors. As some have said publically, these competitor networks are composed of technology that everyone has access to. So, we need to build better networks.

This isn't going to be a one-time process of innovation. We won't just inject autonomy and all of a sudden it's going to be great for 40 years. This is going to be a tough competition—we're in a world of fast followers. We are a good, fast leader, but we should be prepared for operational and technological surprise. The force of the future is designed to get a force that is agile enough to adapt to surprise, because in the next 20 to 30 years, that may be endemic. We just don't know, and that is another aspect of the offset.

The introduction of AI and autonomous systems is key to this concept. It's unbelievable when the machines have been taught to perceive the environment a certain way and to make judgments, or highlight things that are happening in the environment. The machines are talking to each other and the human literally just watches the information flow, but then can say, "I need to intervene now to make a decision," and it really happens fast. It's really something. So, it is not only learning machines and big data analytics, it is connecting the machines with common data standards. That is critical. It allows seamless machine-to-machine communication so that the human operator can make relevant decisions and more timely decisions, and can achieve effects on the battlefield faster than expected. It is not just about making faster decisions; it is about achieving effects on the battlefield faster.

JFQ: *Can you describe how the Defense Reform Agenda relates to the so-called Third Offset and what you intend it to accomplish?*

DepSecDef Work: What Secretary of Defense Ashton Carter talks about now as the "Defense Reform Agenda" has four main items. The first agenda item, if you will, was to take a look at the future of the force, in which he said, "I've got the greatest fighting organization that the world has ever seen, and I want to make sure my successors do too." So, the Force of the Future was designed on the personnel aspects of the force. The second thing he wanted to do was talk about upgrading or revamping our war plans to reflect the new defense strategy. The third item was to take a look at technology and study how it was having an effect on the character, but not the nature, of war. And, finally, we needed to take a look inside the business operation of the department and identify ways to become more efficient.

On the issue of reexamining war plans in the context of the notion that all of them are global, you have probably heard Chairman Joseph F. Dunford, Jr., talk about how no war plan is just a theater war plan, as each plan has effects and connections to the other combatant commands. Therefore, all our plans contain global problem sets, and we need to look at them that way. So, it is not enough to have a combatant commander build a plan for a particular conflict or crisis, you actually have to attend all the other supporting operations that are conducted by the other combatant commanders. Currently, we are working on this idea of revising the war plans to address the global problem sets we see, labeled the "4+1," which refers to Russia, China, Iran, North Korea, and violent extremism. The Secretary and the Chairman agreed on the need to start revising the war plans to make them consistent with our national security strategy. They also wanted these plans to consider the areas that the DSB said are likely to emerge as the most significant technologies over the next 20 to 30 years. For example, combining artificial intelligence and machines that can help humans is a huge step forward, and right now we have the technological advantage. It is not the 30 to 40-year advantage we had when we developed the Joint Surveillance Target Attack Radar System, airborne early warning and control, stealth, precision-guided missiles, and all the maneuvering forces to take advantage of them, but it is an advantage that we hold into the near future. We need to be thinking about how to capitalize on that advantage to move the joint force forward over the course of the next 10 to 15 years. So, these two pieces of the four pillars, emerging technology and their role in our war plans, contribute significantly to this idea of a potential offsetting strategy, or Third Offset, for what we have called for years A2/AD, which may be better described as efforts to counter U.S. power projection capabilities. That is the path that we are trying to move DOD down, to think about the strategic imperatives that are imbedded in these "agenda items" and then develop the organizational changes that might be required both inside our operational plans for war and inside the Services—and DOD itself—as we take advantage of those developments. The framework for the development of our war plans is focused on ensuring they consider and account for transregional, multidomain, and multifunctional aspects.

JFQ: *What kind of management architecture was set up to bring all the stake holders involved in this effort and guide it to success?*

DepSecDef Work: We established several mechanisms. The principal one, called the Advanced Capabilities and Deterrence Panel (ACDP), is actually a partnership between the Deputy Secretary, the Vice Chairman, and the Deputy Director of National Intelligence. The three of us chair an oversight panel that tries to manage all the moving parts that exist within this journey in how to implement the Third Offset Stragey. Deterrence is embedded right in the title, which emphasizes that this is about deterrence. We chose the word capabilities rather than technology because this is much more than just technology, it is the operational and organizational constructs and also the capabilities that we can bring to improve conventional deterrence and warfighting effectiveness of the joint force. The key thing about the Third Offset Strategy that I hope all of your readers will understand is that this is not about technology per say; it is about technology enabled operational and organizational constructs that give us an advantage at the operational level of war, which is the surest way to underwrite conventional deterrence.

What we sought with ACDP was a partnership between a number of interested agencies whose work overlaps in the areas of policy, operations, and intelligence, and would assist in defining and managing the different interests and capabilities that might be potentially useful for a Third Offset Strategy. The three of us meet no less than quarterly and review the progress of groups like the Rapid Capability Offices in the Services, the DOD Rapid Capability Office, and the wargaming initiatives that are now embedded throughout the force. The Office of Cost Assessment and Program Evaluation [CAPE] presents their wargame outcomes as well as the way forward for the next quarter as we look at the warfighting lab initiatives. It is that panel of three that approves the warfighting lab innovative grants that go out to the Services as they develop new concepts. That overarching process is the basic governance. Below that level there are several other subordinate groups that do very detailed maintenance of things like demonstrations or wargames or warfighting lab work; but, fundamentally, it is the three of us who provide the oversight for the process.

JFQ: *What is the relationship between the DOD Force of the Future and the Third Offset?*

DepSecDef Work: One very interesting intersection has to do with the ability to recruit and retain the people who are going to be required to fight in this new environment. If you believe as a proposition that there is going to be a competition for talent between commercial industry and the military, then we have to be able to compete for the same talent. As we move into some of these areas that are actually analogues to what is happening in the commercial sector, DOD is going to have to be able to compete for the very talented young men and women who are educated in the kinds of technology we are looking to acquire and understand how to organize around that type of technology. We are looking to take advantage of the intersection of the Force of the Future and the Third Offset. For the future force, the key is continuing to bring in the right talent we need and to retain that talent over time. This is not an indictment of current processes and certainly not an indictment of the willingness of young men and women to join and stay in the Service today; but it is a realization that, over time, we have to have the tools to compete for that talent, in the open marketplace, as we have internally since the late 1970s.

Another important aspect of the Force of the Future is what the Secretary refers to as improving the "permeability" of the Department, and in this competitive environment, the thing that is really driving the technologies that are going to have applicability to a Third Offset Strategy—if we decide to pursue one—is the commercial sector. The commercial sector is not being driven by U.S. Government labs. It includes Big Data, advanced computing, miniaturization, robotics, AI, and nanotechnology, among others, and all these things are being driven by the commercial sector. So, an important aspect of the Force of the Future is providing new avenues for ideas from the outside to permeate into DOD and the defense enterprise. Equally important is the need for ideas from DOD to permeate to people in the commercial sector so they understand the problems that we are interested in and might be able to find a solution that industry would not otherwise have pursued. In addition to recruiting and retaining the right personnel—and that's the key focus—we want to be well positioned to take advantage of one of the key aspects of the Third Offset, which is human-machine teaming. We need to answer some key questions. What type of commander do you need to best lead in a world of advanced human-machine teaming? Are you going to have younger commanders? Are you going to look for seasoned commanders who have worked through a wide variety of human-machine teaming relationships? How you pick for command, how you train your forces, all of this is part of the Force of the Future.

JFQ: *Where do DARPA* [Defense Advanced Research Projects Agency], *Secretary Carter's Special Capabilities Office* [SCO], *and the Defense Innovation Unit Experimental* [DIUx] *fit within this overall initiative and is this how DOD gets the commercial industry to actually work on things that might be useful for DOD's yet-to-emerge requirements?*

DepSecDef Work: To advance the journey toward bringing in innovative software and hardware solutions to the problem sets we are trying to solve, we need to make room for the small companies that do the sort of niche things that DOD will find useful. In general, the companies are able to scale their products within the boundaries of their own capacity, but they generally aren't comfortable working with the Defense Department. Having an intermediary such as DIUx,

Ohio-class ballistic missile submarine USS *Maryland* transits St. Marys River, August 2012 (U.S. Navy/James Kimber)

which can go out and actually examine what is available, allows them to bring to those software and hardware developers unique military problems that they can begin to solve, and then offers them an avenue to scalability. That avenue to scalability might be a partnership with a larger company, which would function as a normal defense contract. DIUx is supposed to be a place where DOD could identify the pieces of potential future capabilities that are of interest. Moreover, DIUx can ask industry if there are any commercial products that it might bring to the table for consideration. DIUx is also a means by which a commercial entity could come to DOD and present a new technology it thinks might be useful, but needs the Department to help them think it through. The whole idea of DIUx, which now has three points of presence, one on the West Coast, one on the East Coast, and one in Texas, is designed to allow that connection to the commercial industry.

It might be that a company can do some new process or technology on its own, but until we can understand what that might mean to DOD, DIUx is a useful intermediary. We can bring the knowledge those commercial companies have into DOD, and that could mean bringing them in as advisors, as civilian employees, or it could mean sending military members to those companies to learn the processes they use and bring some of those processes back to DOD.

To answer your question more directly regarding how do DARPA, SCO, and DIUx fit together, they are on a continuum where DARPA is experimenting with the most advanced technologies that we can get our hands on, and developing them at the same time. DARPA is looking out on the 20-year horizon and beyond for whatever technologies might empower military operations in the future. SCO is looking at taking current capabilities and mixing them in different ways and doing demonstrations of capabilities that could emerge in the next 5 to 10 years, but which are not here today because of the way we choose to organize and mix weapons systems. DIUx, as I've already discussed, is looking for the best minds in the commercial sector who are willing to work on military problems, and we have already given them some very compelling military problems to work on.

JFQ: *How are the allies going to be interfaced with this effort and what would you expect from them as partners to this enterprise?*

DepSecDef Work: In the Second Offset, where we created theater-wide battle networks designed to employ guided missions across the depth and breadth of the battlefield, and to achieve effects such as maneuver and kinetic operations and electronic warfare operations very quickly. The coin of the realm during the Cold War was armored brigades, mechanized infantry brigades, multiple launch rocket system battalions, self-propelled artillery battalions, tactical fighter squadrons, among others. Now, the coin of the realm is going to be learning machines and human-machine collaborations, which allows machines to allow humans to make better decisions; assisted human operations, which means bringing the power of the network to the individual; human-machine combat teaming; and the autonomous network. Network-enabled, autonomous, hypersonic, and directed energy weapons, and electromagnetic rail guns, inserted into the grid, are the five things we are really focused on. Furthermore, any ally can create an application or an algorithm that improves the whole battle network, so even a small country that has a vibrant technological sector can improve the entire network. So, the Third Offset, in our view, is extremely coalition friendly. It allows nations to avoid building up large forces, which they can't afford, but to focus on applications in the network that would allow the entire coalition to operate better. For example, Sweden, which is an

Soldier adjusts M7 Spider Networked Munitions during Network Integration Evaluation 16.2 at training village Kamal Jabul, Fort Bliss, Texas, May 2016 (U.S. Army/Chenee' Brooks)

enhanced opportunity NATO [North Atlantic Treaty Organization] partner, does a lot of cutting-edge, state-of-the-art work concerning unmanned underwater vehicles. They were anxious to say that this is how they might contribute, so you could easily see an underwater network in the Baltic sea region that, for example, would keep an eye on things. So, no matter how large or small the country, they will be able to operate in this Third Offset battle network, and we really want to make this as coalition-friendly as possible.

JFQ: *How is the wargaming element of this effort being implemented and will experimentation become an extension to the analytical components to explore new ideas and how systems perform? So, is it more than just ideas that we are looking for?*

DepSecDef Work: This is about new operational and organizational concepts that provide much better battlefield performance and, therefore, underwrite conventional deterrence. You have the Warfighting Lab Incentive Fund, which is designed to assist the concept and doctrine developers of each of the four Services to conceive new operational concepts. For example, if the U.S. Marine Corps said they'd like to do a Hunter Warrior II, based on the Hunter Warrior series of exercises they ran in the late 1990s, to inject more AI and autonomy, and said they could fund it for $1 million but to run it right they really needed $2.1 million, the Warfighting Lab Incentive Fund is designed to allow the concept developers and doctrine developers to look at concepts. Then, hopefully, you can run the concepts through scenario-based wargames. If it's something we want to explore further, the next step would be to test it in an exercise. Then we could go from doctrine and concept, to wargaming, to exercise, to refinement, to additional refinement, and so on, and you would keep it in this virtual circle, much like the scenarios the U.S. Navy and Navy War College put together in the interwar period. I came into this thinking wargaming had kind of atrophied, but it wasn't true. There was a lot of wargaming activity going on, but the leaders had no idea.

Importantly, a new classified repository was created where wargame results can be shared across DOD, and which so far contains the results of more than 250 games. The repository has allowed CAPE to brief us on a periodic basis in the Deputy Secretary's Management Action Group and say, "Here are the broad themes that are coming across in terms of the transregional, multidomain, multifunctional aspect of warfare." All of these things together—the wargame repository, the Warfighting Lab Incentive Fund, the wargaming incentive fund—are designed to help us think of the operational and organizational constructs. Furthermore, the repository not only tells us what happened in past wargames, it tells us which wargames are coming up, and has now become a function that all 4 of the Services and all the combatant commanders are looking at, saying, "This is something I want to participate in." So, it not only connects the leadership, it also starts to help synchronize wargaming across DOD.

***JFQ:** Can you discuss your views on how autonomous and robotic systems are likely to influence the outcomes of these innovations in years ahead?*

DepSecDef Work: I think it is a bit of a double-edged sword. On the upside, we have built the theory that AI and autonomous systems can empower humans to be much more effective and efficient in cultivating all the tactical and operational details they have to deal with in order to make decisions. Whether that means you partner a human with a piece of software that makes them more effective or you partner a unit with machines that are embedded in the unit that makes them more effective in combat is still debatable, but there is growing evidence that both are actually true. One of the big debates we have is if you build robotic systems that have robotic autonomy built in, how will you keep humans in the decision cycle to use lethal force? I think that is a debate we have to have. It is a command and control function that we have to understand. It is a process that we have to put some doctrinal limits around so the idea of advanced robotics being autonomous and capable of lethal force all at the same time, without building in some checks and balances where humans make decisions, is a process that we are going to have to understand better. Many would argue that it's a step we shouldn't take. I have a different take. Building in autonomy in advanced robotics means that you could possibly make a partnership between a human and a machine that allows the human to be in control, and that allows the machine to use lethal force at the behest of the human. I think that is a path we have to explore and understand, and we are not there yet. This is a 20- or 30-year journey.

Most of the advanced robotics people will tell you that what we are doing with advanced robotics today is in the infancy of the technology, and we are 20 or 30 years from completely understanding how robots could change the way we live, work, and fight. Will we ever build a robot that is completely autonomous that will exert lethal force? I think the answer to that is no. Such a concept is part of the wargaming process we are exploring. Our conception of autonomy is to empower the human, and that's why we are focused on human-machine collaboration and human-machine combat teaming. The human is central in our conception of the use of AI and autonomy. An authoritarian regime might approach this in an entirely different way, in which they might view humans with decision authority as a potential impediment to the achievement of the master plan and field capabilities that take people out of the decision loop in favor of algorithms that the regime leadership prefers.

In fact, we know that the Soviet Union thought exactly this way because their theater-wide battle networks—known as reconnaissance-strike complexes—were fashioned as a totally automated system. They would press the "I believe button" and let the machine make the decisions. That's not what we are seeking. In movie analogy terms, instead of Skynet and Terminator, we think in terms of Iron Man, where a human empowered by AI and a learning machine is making better decisions, resulting in a more effective fighting force.

We know, for example, that we have to rely on machines in cyber warfare, electronic warfare, and probably missile defense. These are primarily defensive applications because the attacks are coming so fast human reaction would be too slow to prevent unacceptable damage. In some situations, there is no way a human can keep up with everything. Currently, in primarily defensive situations, we might consider delegating the authority to machines to make those decisions. But regarding offensive lethal action, in which we are taking action on the battlefield in an offensive, proactive way, our conception is that human beings will always be making those decisions. But 30 years from now, they'll need to check in and see how this goes.

***JFQ:** What are the likely impacts on the DOD research and development as a result to this effort?*

DepSecDef Work: As I said, we are just starting this journey, so you haven't seen major changes in the DOD program. We have a $3 trillion DOD program in the Future Years Defense Program, which is about $600 billion a year when you add in the Overseas Contingency Funds. Over the course of fiscal year 2016 through fiscal year 2018, we have probably injected about $25 billion of new conceptual demonstrations and capability development, so it is a relatively small part of the program. But this is like a snowball. Once you start the demonstrations and these new capabilities developments moving, things start to propagate very quickly across these portfolios. What I would expect to see over the course of the next 3 to 4 years are major kinds of muscle moves in directions that are very useful and often unexpected.

In just a short period, these demonstrations have shown us that capabilities we had thought were useful in a particular way are actually more useful in another—an unexpected but welcome advancement. For example, we started off thinking electromagnetic rail guns were the right way to go for a certain new projectile, but we learned it could be fired from an existing conventional gun. We now have a whole new set of options by combining new and existing capabilities that we can explore. Such discoveries can lead us to ask questions such as what would a capability as I just described do for a NATO operational fires network that also was leveraging artificial intelligence? I think it would revolutionize it. It could allow small empowered teams, the hunter warrior teams, along the forward line of troops to be able to call in fires from the entire NATO battle network. So, over the course of the next 3 to 4 years, you will start to see us explore such ideas further. But we have chosen an approach that isn't just about technology. In our view the work on the Third Offset is about operational and organizational constructs to achieve innovative battlefield effects that will improve our conventional war fighting, which in turn strengthens our conventional deterrence, allowing us to meet the challenges we see in the future. JFQ

Air Force pararescuemen and West Coast–based Navy SEALs leap from ramp of Air Force C-17 transport aircraft during free-fall parachute training over Marine Corps Base Hawaii, January 2011 (U.S. Marine Corps/Reece E. Lodder)

Trust

The Sine Qua Non of Effective Joint Operations

By Stanley A. Springer, John A. Schommer, and Sean S. Jones

Merriam-Webster defines *trust* as the "assured reliance on the character, ability, strength, or truth of someone or something." Within academic literature, trust is often defined as "the willingness to be vulnerable."[1] One functional definition that captures the uncertainty of military operations calls it "a state involving confident predictions about another's motives with respect to oneself in situations entailing risk."[2] These definitions offer a starting point to examine trust within the context of joint operations.

Trust is referenced broadly both in joint doctrine and in key position papers. Joint Publication 1, *Doctrine for the Armed Forces of the United States*, describes trust in various ways: as a key component of mission command and an output of military engagement with other armed forces and civilian agencies. *Mutual trust* is a tenet of command and control that strengthens unity of command and "expands the Joint Force Commander's options and enhances flexibility, agility, and the freedom to take the initiative when conditions warrant."[3] Recognized as a key component of the profession of arms, joint doctrine states that "trust and confidence are central to unity of effort."[4]

In describing his vision for the Joint Force–Global Integrated Operations (GIO), former Chairman of the Joint Chiefs of Staff General Martin Dempsey pointed out that GIO would "exploit the human element in joint operations, emphasizing trust . . . among other traits."[5]

Colonel Stanley A. Springer, USAF, was recently Commander, 309th Aircraft Maintenance Group, Ogden Air Logistics Complex, Hill Air Force Base, Utah. Rear Admiral John A. Schommer, USNR, is Deputy Commander of the U.S. Navy's Military Sealift Command. Lieutenant Colonel Sean S. Jones, USAF, is Chief of the Personnel Readiness Division on the Joint Staff, J1 Manpower and Personnel Directorate.

Similarly, in a white paper, Dempsey acknowledged trust as a key attribute in the joint conception of mission command.[6] Indeed, he noted that "building trust with subordinates and partners may be the most important action a commander will perform. Given our projected need for superior speed in competitive cycles of decision-making, it is clear that in Joint Force 2020, operations will move at the speed of trust."[7]

Trust, it would seem, is an essential element in joint operations. Put another way, trust can be considered the sine qua non of successful joint operations, and the growing complexity of future operations will further increase the central significance of the concept. Its joint value appears in two forms: interpersonal and interorganizational. General Dempsey's exultation of the value of trust under the concept of mission command alludes to these two forms, especially as he discusses "building trust with one's subordinates and partners."[8] From a commander's perspective, trust is needed on a personal level with one's subordinates and superiors and—on another, arguably more complex level—with one's partners, be they people or organizations. In the study "Trust in Small Military Teams," these two concepts are referenced as person-based trust and category-based trust. *Person-based trust* is the "idea of trust conferred directly on a known person, as a result of direct interaction with this person," whereas *category-based trust* arises when one person perceives that another belongs to an organization or group of people that he or she has come to trust.[9]

In the crucible of conflict, trust within the military Services and between the Services and interagency has served as the requisite condition for unity of effort and action in successful joint operations. That said, we cannot take for granted the bonds of trust forged during the wars in Iraq and Afghanistan, especially as new challenges continue to emerge. The effectiveness of 21st-century joint operations will depend on maintaining and improving the trust within the joint force while simultaneously expanding joint-interagency operational bonds to enable unity of effort and action across the spectrum of possible conflicts.

Trust in Joint Operational History

Incidents of successful joint and unified action underpinned by interpersonal and even interorganizational trust pepper U.S. military history. George Washington's victory at the Battle of Yorktown had much to do with the personal trust between Washington and the French commanders General Rochambeau and Admiral Francois-Joseph de Grasse. The cornerstone of the Union's pivotal Vicksburg campaign (1862–1863) in the Civil War was the warm relationship between the commander of the Mississippi River Squadron, Rear Admiral David Dixon Porter, and Generals Ulysses S. Grant and William T. Sherman. Indeed, Grant assumed command of the main Vicksburg operation in lieu of Major General John McClernand due, in part, to the Navy's lack of trust in McClernand.[10] In World War II, the performance of the Pacific island-hopping campaigns led by Chester Nimitz and Douglas MacArthur—who were initially skeptical of the strategy, but generally followed its basic tenets—improved steadily as the leaders, organizations, and men of all Services learned the business of war and learned to trust each other. Furthermore, in the European theater, Army Air Corps General Elwood R. "Pete" Quesada forged relationships of trust and confidence with his generals, especially Omar Bradley, which significantly improved tactical air–ground relations and laid the groundwork for a successful Normandy campaign.[11]

Often, the relationships of mutual trust and confidence that led to military-interagency cooperation were forged ad hoc. During the Second Seminole Indian War, the U.S. Treasury Department's Revenue Cutter Service (originally "Revenue-Marine") assisted the Army and Navy in the Seminole Indian campaigns and were involved in the other wars of the 19th century.[12] Later in the 20th century, the U.S.–Republic of Vietnam Civil Operations and Revolutionary Development Support program combined military and civilian elements from both countries in a single, unified effort in an attempt to subdue many areas in South Vietnam that had once resisted pacification. Though the program was canceled after just 3 years as the war drew to a close, its unified military-civilian framework enabled novel utilization of several instruments of power toward a common objective at the tactical and operational levels of war. Despite these mixed results, without a doctrinal or legal framework to foster mutual confidence, the success of any joint and unified operations depended on leaders slowly building trust between themselves and their organizations—often as bullets were flying and opportunities escaping.

On the other end of the spectrum, there are an equal number of failures in U.S. history that can be attributed to systemic trust issues between the Services as well as between the Services and interagency. During the Civil War, "when officers of the army and navy managed to work together effectively, the Union generally found success; when they did not, the result was disappointment and failure."[13] An example of a good working relationship is between Rear Admiral Andrew Foote and General Grant during the Union attack on Fort Henry, at which Grant's forces attacked by land while Foote's flotilla attacked from the Tennessee River.[14] The 19th-century military-interagency relationship struggled as well. To wit, as often as the Bureau of Indian Affairs and the Army coordinated actions to implement the Indian policy of the day, they seemingly managed to find other ways to cause each other problems. Poor coordination resulting from a general lack of mutual trust and confidence between the Army and Navy in the Spanish-American War's Caribbean operations helped lead to the creation of the Joint Army and Navy Board in 1903, but it had no legal authority, and joint operations remained dependent on commander-level, person-based trust at all levels of war. Finally, in spite of the relative success of joint and even unified operations in World War II, the trust earned in global combat did not carry over as a systemic feature of postwar operations.

The Services' perpetual rivalry over budget and missions after 1945 and into the 1980s did nothing to improve interorganizational trust. Consequently, the efficacy of joint warfighting and unified action varied wildly according to the circumstances of the operation. In 1947, the newly formed Department of Defense (DOD) and National Security Council (NSC) established the legal framework that promised unified action in the second half of the 20th century. That said, significant headwinds slowed efforts to improve the government's unified performance in both peace and war. The NSC, while increasingly useful for coordinating high-level cross-agency policy decisions, evolved very slowly, did not incorporate the entire interagency, and did not necessarily drive mutual trust and confidence between the military and interagency at the theater level and below.

Of course, the United States did not abandon joint and unified warfighting as a fundamental precept. There were, in fact, isolated areas of improved jointness, including various battles in Korea and Vietnam as well as the Air Force–Army's AirLand Battle concept in the 1970s and 1980s. Nevertheless, the steps needed to improve unified action through policy and processes that institutionalize personal and interorganizational category-based trust were not taken. Operations *Eagle Claw* (the failed rescue of U.S. hostages in Iran in 1980) and *Urgent Fury* (the invasion of Grenada in 1983) amply illustrated these issues. The Goldwater-Nichols Department of Defense Reorganization Act of 1986 sought to mitigate these joint challenges and almost incidentally improved military-interagency cooperation, which had been slowly growing under the aegis of the NSC system.

Goldwater-Nichols heralded a new era of imbedded structural trust within DOD and, to a lesser degree, between the military and interagency. Under this landmark legislation, planning and operational control of the joint force shifted to the combatant commander from the Service chiefs. The law also restructured the Joint Staff to facilitate interoperability of the Services' forces and further enhanced joint operations under a single unified combatant commander. Eventually, as the legislation took hold, interorganizational trust between the Services (and, consequently, joint operations) steadily improved. In turn, as joint operations became more systemic within DOD, mutual trust and confidence between the military and interagency seemingly improved as clear chains of command facilitated interagency cooperation from the theater to tactical level. From the late 1980s onward, multiple operations to include *Just Cause*, *Desert Storm*, *Allied Force*, numerous humanitarian relief missions, as well as the early days of *Enduring Freedom* and *Iraqi Freedom*, incrementally displayed the increasing ability of the joint force to conduct unified action.

Trust in Today's Joint Force

At the dawn of the 21st century, as military operations in Afghanistan and Iraq wore on, so did the pressure on the bonds of trust. Both personal-based and interorganizational trust issues have become increasingly apparent. Whether due to a force strained from over a decade of combat, changing cultural norms, or other factors, the degradation of trust and our overall performance appear to go hand in hand.

Trust issues seemingly pervade today's joint force. Newspaper stories abound about toxic leaders, and retention surveys cite "widespread distrust of senior leadership" or integrity issues among the officer corps.[15] In parallel, the scourge of sexual assault has frayed internal bonds of trust within units in all Services while straining relations between Congress and military leadership. As reports of military sexual assault have risen over the years, political leaders have argued to take these cases out of the hands of military commanders because alleged victims "do not trust the chain of command."[16] This may indicate that some Members of Congress have lost trust in the military justice system's ability to address this serious crime.

Of course, DOD has worked hard to combat all of these issues, but often with marginal success as the number of problems seemingly multiplied and solutions eluded senior leaders. Indeed, senior leaders and commanders are expending enormous resources to counter the deleterious effects of these trust issues on joint effectiveness and unified action. In his "Initial Thoughts" to the Army, former Chief of Staff General Raymond Odierno touted trust as "the bedrock of our honored Profession."[17] The 2015 National Military Strategy also promoted a "campaign of trust" that emphasizes mutual respect and addresses serious issues, including sexual assault.[18] Consequently, mandatory training, workshops, new initiatives, and inspections to mitigate the various forms of internal trust issues have seemingly become the focus of warfighting units, instead of warfighting. Nevertheless, it is not clear that our efforts are working or that the joint force even understands how to fix their challenges. Indeed, one study noted several threats to trust within the Army and observed that leaders lacked an understanding of the topic, which impeded their ability to discuss it effectively with their troops.[19]

Looking ahead, as the military faces potentially $1 trillion in defense cuts over 10 years, DOD will be driven to make tough decisions on force structure size and resource prioritization. People—the most important and most expensive assets—are often the first casualties in a fiscally austere environment. As resources become increasingly constrained and the competition for those resources increases, personnel support programs will likely be viewed as low-hanging fruit. As the Services examine tradeoffs between modern weapons and personnel support, the risk to the morale of the force will increase. This unpredictable environment may lead Servicemembers to question whether they can trust the organization to act in their best interests.[20] If Servicemembers lose trust and confidence in the military institution, their commitment to the organization will fade along with joint readiness.

Similarly, inter-Service rivalries and a subsequent decrease in interorganizational trust are starting to emerge. As the country resets its military after 15 years of war in Afghanistan and Iraq, the reduction

Maritime special operations forces prepare for mission during training exercise aboard *Nimitz*-class aircraft carrier USS *George Washington,* September 2014 (U.S. Navy/Everett Allen)

in manpower and budget constraints has triggered inter-Service rivalries that were always present but kept somewhat in check by a common enemy and large contingency operations funding from Congress. For example, the Army and Air Force's perpetual battle over close air support simmered throughout the latter half of the war on terror, spilling into the open briefly in 2007 in the fight over unmanned aerial vehicle support. In today's fiscally constrained environment the problem has reemerged, with one author noting that Army aviation officers do not believe that the Air Force, when employing Predator and Reaper aircraft, is responsive to the needs of the ground forces.[21]

The inter-Service rivalries and lack of trust also extend to the strategic level as detailed by Mark Perry in a *Politico* article. In particular, Perry described the release of the AirSea Battle doctrine—which became part of Pentagon policy in 2010—as primarily an Air Force and Navy strategy to integrate capabilities and ensure freedom of action against a potential adversary, such as China in the Pacific. The Army's subsequent realization that the new doctrine would mean less budget money to reset itself following the war chilled relations between the Army Chief of Staff and his fellow Service chiefs.[22] Put another way, at the same time the Services should be trying to do more with less to fight the next enemy, they are expending time and resources chipping away at the interorganizational trust that should underpin the future joint force.

Recommendations

The history of joint warfare in the United States clearly demonstrates the key role trust plays in ensuring unity of action in joint operations. To reinvigorate this trust as the character of war and the Services change in the 21st century, we offer the following recommendations.

First, each of the Services must continue to develop leaders who are skilled in building trust, both interpersonal and interorganizational, and measure their performance in doing so. Of course, commanders must inculcate internal, person-based trust within their organizations to achieve operational excellence on and off the battlefield. However, these leaders should also possess an understanding of the role that trust plays in joint operations and ensure that their personnel and organizations execute in a manner that engenders trust with the rest of the joint force. In reality, this recommendation is not new—it is a core concept of mission command and identified as a Desired Leader Attribute.[23] Our suggestion, however, that the Services document a commander's ability to build trust internally and externally, is new.

Commanding officer of USS *Ronald Reagan* talks to *Reagan* Sailors at Stomp Out Sexual Assault 5k run on Naval Air Station North Island, April 2013 (U.S. Navy/Omar Powell)

Second, the topic of trust should be stressed in the curriculum at every level of professional military education. While commanders set the tone for their organizations, educating Soldiers, Marines, Sailors, and Airmen on the value of trust in successful joint actions should inject the concept into the sinew of U.S. military might. To wit, redoubling efforts to integrate and expand interagency personnel in military education and training programs emphasizing the importance of trust will lay the groundwork for unified actions of the future. Building a government capable of unified action on the 21st-century battlefield depends on the military and interagency categorically trusting each other, and a professional military education system should facilitate this vision from the ground up.

Third, as outlined in the 2015 National Military Strategy, the Joint Staff should continue to develop and expand its "campaign of trust" to address potential challenges within the joint force. By emphasizing mutual respect and trust, we will have a more ready and resilient joint force. Ideally, this campaign should identify the key components or guiding principles for policies and programs that foster interpersonal and interorganizational trust with the joint force. This would be a comprehensive campaign that promotes trust across the Armed Forces, interagency, and other partners to enhance interoperability and interdependence. Additionally, the campaign should serve as a gatekeeper of sorts to make sure we do not abandon the processes that have served us so well in building today's joint force. For example, in these challenging economic times, the campaign would remind leaders of the importance of large-scale, and expensive, joint exercises that have so effectively taught generations of Servicemembers and their allies to live, trust, and fight together—before they went to war.

Fourth, senior leadership should continue to promote policies and programs that sustain our all-volunteer force, the singular advantage for our nation. During and following the Vietnam war, public trust in the U.S. military was at an all-time low. A significant number of draftees did not want to serve and faced hostile environments when they returned home. The all-volunteer force changed that. By building trust and keeping faith with our current Servicemembers and their families, we will inspire the next generation of joint leaders to join our ranks in service to their country. By caring for our military family today, we will ensure a viable joint force tomorrow. Operating on a foundation of trust, these policies and programs will support our military family throughout the military life cycle—from the time they enter service until they

transition and reintegrate back into civilian life. How we care for our military family will not only build trust among our Servicemembers but should also engender trust among the American public.

Trust is the grease that facilitates effective joint operations. Without it there is friction, whether interpersonal or interorganizational. But with it, we can ensure a smooth-running joint machine well into the 21st century. **JFQ**

Notes

[1] Roger C. Mayer and James H. Davis, "An Integrative Model of Organizational Trust," *Academy of Management Review* 20, no. 3 (1995).

[2] Susan Diane Boon and John G. Holmes, "The Dynamics of Interpersonal Trust: Resolving Uncertainty in the Face of Risk," in *Cooperation and Prosocial Behaviour*, ed. Robert A. Hinde and Jo Groebel (New York: Cambridge University Press, 1991).

[3] Joint Publication (JP) 1-0, *Doctrine for the Armed Forces of the United States* (Washington, DC: The Joint Staff, 2013).

[4] Ibid.

[5] *Capstone Concept for Joint Operations: Joint Force 2020* (Washington, DC: The Joint Staff, 2012).

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

[7] Chairman of the Joint Chiefs of Staff (CJCS), *Mission Command White Paper* (Washington, DC: The Joint Staff, 2012); Stephen M.R. Covey, *The Speed of Trust: The One Thing That Changes Everything* (New York: The Free Press, 2006).

[8] Ibid.

[9] Barbara D. Adams and Robert D.G. Webb, "Trust in Small Military Teams," report, Defence and Civil Institute of Environmental Medicine (Canada), Humansystems Incorporated, 2003, available at <www.dodccrp.org/events/7th_ICCRTS/Tracks/pdf/006.pdf>.

[10] *Joint Military Operations Historical Collections* (Washington, DC: The Joint Staff, 1997).

[11] Thomas Hughes, *Overlord: General Pete Quesada and the Triumph of Tactical Air Power in World War II* (New York: The Free Press, 1995).

[12] John Missall and Mary Lou Missall, *The Seminole Wars: America's Longest Indian Conflict* (Gainesville: University Press of Florida, 2004).

[13] Aaron Sheehan-Dean, ed., *Struggle for a Vast Future: The American Civil War* (Oxford, UK: Osprey Publishing, 2006).

[14] Ibid.

[15] Leonard Wong and Stephen J. Gerras, *Lying to Ourselves: Dishonesty in the Army Profession* (Carlisle, PA: Strategic Studies Institute, 2015); Kris Osborn, "Navy Survey: Sailors Unhappy, Don't Trust Brass," *Military.com*, September 4, 2014, available at <www.military.com/daily-news/2014/09/04/navy-survey-sailors-unhappy-dont-trust-brass.html>.

[16] Laura Bassett, "Gillibrand's Military Sexual Assault Reform Fails in the Senate," *Huffington Post*, March 6, 2014, available at <www.huffingtonpost.com/2014/03/06/gillibrands-military-sexual-assault_n_4913108.html>.

[17] Raymond T. Odierno, "Initial Thoughts—Chief of Staff, U.S. Army," September 7, 2011, available at <www.army.mil/e2/c/downloads/219032.pdf>.

[18] *The National Military Strategy of the United States of America* (Washington, DC: The Joint Staff, 2015), available at <www.jcs.mil/Portals/36/Documents/Publications/2015_National_Military_Strategy.pdf>.

[19] Charles Allen and William Braun, "Trust: Implications for the Army Profession," *Military Review*, September–October 2013.

[20] Adams and Webb.

[21] Stew Magnuson, "Army to Air Force: We Won't Give Up Our Surveillance Aircraft," *National Defense Magazine*, February 2010, available at <www.nationaldefensemagazine.org/archive/2010/February/Pages /Army-toAirForceWeWon'tGiveUpOurSurveillanceAircraft.aspx>.

[22] Mark Perry, "The Pentagon's Fight Over Fighting China," *Politico.com*, July–August 2015, available at <www.politico.com/magazine/story/2015/06/pentagon-air-force-navy-fight-china-119112?o=5>.

[23] CJCS Instruction 1800.01E, *Officer Professional Military Education Policy* (Washington, DC: The Joint Staff, May 29, 2015).

U.S. Air Force B-52 Stratofortress, B-1 Lancer, and B-2 Spirit launch from Andersen Air Force Base, Guam, for integrated bomber operation, August 2016 (U.S. Air Force/Richard P. Ebensberger)

Searching for Digital Hilltops

A Doctrinal Approach to Identifying Key Terrain in Cyberspace

By Scott Douglas Applegate, Christopher L. Carpenter, and David C. West

During the 1991 Gulf War, the U.S. military delivered a crushing defeat to the Iraqi army in one of the most one-sided battles in history.[1] A concept known as net-centric warfare was partially responsible for this victory and marked the first real integration of information technology (IT) into combat systems on a large-scale basis. Net-centric warfare is characterized by the integration of computer and networking technologies into every functional area of operations, which can increase performance, enhance intelligence, and improve efficiencies in order to greatly increase combat power.[2] While still in its infancy, net-centric warfare increased commanders' situational awareness and enhanced their ability to deliver overwhelming combat power to decisive points on the battlefield. However, the pervasive introduction of IT into combat systems has created both opportunities and vulnerabilities. The need to defend or exploit these systems eventually led the Department of Defense (DOD) to designate cyberspace as a new warfighting domain through which combatants are able to conduct a new breed of military operations.

Just as planners must characterize the operational environment in the physical domains, cyberspace operators and planners must do so in this new warfighting domain. Defining the operational environment includes identifying critical assets, centers of gravity, avenues of approach, decisive points, and key terrain. Particularly problematic issues such as the misidentification of key terrain

Lieutenant Colonel Scott Douglas Applegate, USA, is a Joint Action Officer and Strategic Planner for the Cyber Policy Division, Joint Staff J5. Major Christopher L. Carpenter, USA, is a Joint Staff Officer, J35, United States Forces, Korea. Lieutenant Commander David C. West, USN, is an Information Professional serving as the N6 to Naval Special Warfare Group One.

in cyberspace, the absence of effective cyberspace doctrine that defines concepts and terms in coordination with the other warfighting domains, and the lack of cyberspace knowledge by operational planners within the joint force have greatly stymied the ability of the U.S. military to operate effectively in this domain. To do so, the military must create a common lexicon and clarify the concepts and processes of identifying key terrain in cyberspace within joint doctrine.

Background

Cyberspace is different from the physical warfighting domains of land, sea, air, and space. It is a nonphysical realm consisting of the interdependent networks of IT infrastructures and resident data, including the Internet, telecommunications networks, computer systems and embedded processors, controllers, and even the individuals who interact with these systems.[3] It is home to a new kind of warfare that seeks to disrupt, deny, degrade, distort, or destroy the information and/or systems necessary to employ military power in the physical domains. As IT creates a more interconnected world, operations in cyberspace are shifting from a secondary defensive role to an alternate means of applying military power parallel to or in conjunction with the other warfighting domains. A new battlespace is emerging where attribution is difficult and the players range from nation-states and military commands to criminal organizations and lone operators. The relatively low cost of entry to this battlespace compared to the physical warfighting domains can allow small nation-states and even nonstate actors to compete. Additionally, cyberspace operations (CO) asymmetrically favor the attacker. Defenders must secure their entire infrastructure and every system, whereas an adversary need only find a single weakness in a target's defenses to employ cyberspace effects.

CO can deliver unique capabilities and combat power through cyberspace, but the U.S. military does not act in a unified manner when conducting these operations, especially when acting in concert with other warfighting functions.[4] The U.S. military concentrates offensive efforts under U.S. Cyber Command (USCYBERCOM), while Defensive Cyberspace Operations are spread at echelon between the Defense Information Systems Agency and the Services' chains of command.[5] This dispersed responsibility requires coordination in order to be successful, but the inability to identify key terrain in cyberspace and the lack of mature joint cyberspace doctrine create gaps, redundancies, and confusion between the Services and across the different echelons of command. Ultimately, the absence of a common CO lexicon and multiple interpretations of operational concepts lead to a waste of resources and an overall degraded operational posture in cyberspace. We now turn to an examination of overlooked and misunderstood aspects of cyberspace operations.

Previous Efforts to Identify Key Terrain in Cyberspace

Numerous researchers, planners, and practitioners have attempted to define cyber key terrain in cyberspace as the military has increasingly integrated cyberspace into its operations over the last three decades. These previous efforts suffered from three key flaws or omissions in their methodologies. First, in almost every case, the researchers focused on *what* items should be considered key terrain rather than on *how* to identify key terrain in a contextual manner. Second, previous efforts omitted the planning concepts of objective and mission, which are essential to identifying key terrain for a military operation. Finally, these efforts often confused or misidentified key terrain with critical assets. These flaws left planners struggling to grasp the concept of key terrain in cyberspace and, more importantly, grappling with how to implement this concept in an efficient and effective manner during planning and operations.

The most consistent trend noted across the research efforts to identify key terrain in cyberspace was a desire to create lists of devices, logical constructs, personas, and processes that constitute *cyber key terrain*. In the article "The Key Terrain of Cyber," John Mills identifies eight areas of focus in his efforts to define the terrain of cyberspace: data centers, commercial Internet service providers, undersea cables, international standards bodies, basic input/output systems, supply chains, cyber workforce, and innovation. Mills identifies all of these focus areas as key terrain, which leaves the reader with the impression *all* terrain is key.[6] In the article "Key Terrain in Cyberspace: Seeking the High Ground," the authors argue that key terrain exists in the geographic, physical, logical, cyber-persona, and supervisory planes of cyberspace. Furthermore, the authors define *cyber key terrain* as systems, devices, protocols, data, software, processes, cyber-personas, or other network entities, the control of which offers a marked advantage to an attacker or defender.[7] The problem with these laundry lists of items is that they lack context and leave the reader with the impression, again, that absolutely everything in cyberspace is key terrain. The lists tell a reader *what* to look *at* rather than teaching them *how* to look *for* key terrain. A planner cannot determine what constitutes key terrain in cyberspace outside the context of the mission and the objectives of that mission.

A critical omission in previous research efforts is the failure to tie key terrain to objectives or missions. Researchers consistently attempt to identify key terrain in a vacuum. Key terrain is only *key* because it gives an advantage to an attacker or defender in relation to the achievement of mission objectives. Deborah Bodeau, Richard Graubart, and William Heinbockel touch on the need to identify "key cyber terrain, critical assets, or crown jewels" and discuss the importance of context in their 2013 work on the subject. However, they never define that context in terms of specific military missions or mission objectives. Instead, they suggest a series of questions and potential sources for information that planners could use across a variety of topics to identify key terrain.[8]

Key Military Definitions

Mission: The task, together with the purpose, that clearly indicates the action to be taken and the reason therefore.

Objective: The clearly defined, decisive, and attainable goal toward which every operation is directed; the specific target of the action taken that is essential to the commander's plan.

Key Terrain: Any locality, or area, the seizure or retention of which affords a marked advantage to either combatant.

Critical Asset: A specific entity that is of such extraordinary importance that its incapacitation or destruction would have a very serious, debilitating effect on the ability of a nation to continue to function effectively.

Critical Asset List: A prioritized list of assets or areas, normally identified by phase of the operation and approved by the joint force commander, that should be defended against air and missile threats.

Defended Asset List: A listing of those assets from the critical asset list prioritized by the joint force commander to be defended with the resources available.

The third flaw noted is the lack of a common lexicon and the consistent misuse of doctrinal terms in relation to key terrain in cyberspace. A number of authors use the terms *critical assets* and *key terrain* synonymously, implying these terms are interchangeable when they are not. Bodeau, Graubart, and Heinbockel discuss the importance of identifying "key cyber terrain," yet when they describe their process, they substitute the term *critical assets* for key terrain and lump together "key terrain, critical assets or crown jewels" as though they have identical meanings.[9] IdeaScale, a commercial vendor training DOD Cyber Protection Teams to identify key terrain during their missions, also uses the terms *key terrain* and *crown jewels* interchangeably.[10] The imprecise use of these terms by academics and trainers implies a lack of understanding of the difference between critical assets and key terrain. DOD defines a critical asset as "a specific entity that is of such extraordinary importance that its incapacitation or destruction would have a very serious, debilitating effect on the ability of a nation to continue to function effectively."[11] There are almost certainly assets in the cyberspace domain that could be defined as critical, and their identification should be prioritized due to the potential impact on national security. However, defining and protecting critical assets should not be confused with identifying key terrain. Understanding how the identification of critical assets shapes the identification of key terrain during a mission is important to the success of our cyberspace planners. This process allows planners to prioritize critical assets, create a Critical Asset List, determine which assets should be defended, develop a Defended Asset List, and then identify key terrain in relation to these assets and mission objectives. Defining these terms and imparting a common understanding to practitioners and planners will better enable the identification of key terrain in the context of mission objectives. To that end, this article provides a list of key joint doctrinal definitions of the relevant terms to the reader (see sidebar).[12]

Flaws and omissions in previous research efforts imply that planners and practitioners working in cyberspace may lack understanding or knowledge of doctrinal planning processes used in the physical domain. Planners in these other domains, especially Army and Marine Corps planners, have efficient and effective processes for identifying key terrain that are integrated into both the Services' and the joint planning processes. It is thus important for planners working in cyberspace to understand how these processes are accomplished in the physical warfighting domains. Often, simply removing the *cyber* concept from complex problems in the cyberspace field leads to better understanding and better solutions to seemingly wicked problems.

Key Terrain in the Physical Domains

It is important to define key terrain and the process for identifying it in the physical domain. One of the best tactical explanations for identifying key terrain can be found in Army Field Manual 3-21, *The Infantry Rifle Company*. The manual first discusses key terrain in the third step of the company commander's Troop Leading Procedures (TLP), which is the planning process conducted by tactical-level commanders. The TLP process runs parallel to the higher echelon's military decisionmaking process. Because company commanders lack a planning staff, the TLP process is tailored to simplify the planning process without missing the necessary steps for mission accomplishment.[13]

One of the most important aspects for any commander is to understand their operational environment. Army commanders have historically used the acronym *OAKOC*, which stands for Observation and Fields of Fire, Avenues of Approach, Key Terrain, Observation, and Cover and Concealment, to help in identifying the categories needed to analyze terrain.[14] Commanders must understand what terrain is important to their mission accomplishment. Properly identifying key terrain can mean the success or failure of missions at all levels of war. Focusing on the tactical-level doctrine best explains the process of identifying key terrain, as strategic-level doctrine tends to tackle this process too abstractly and assumes a level of understanding that is often absent.

Once commanders are given their mission and begin their analysis to understand the operational environment in which their element will fight, they will naturally focus on certain areas of terrain. A continued analysis will lead the commanders to determining whether there is key terrain to their mission success. The other factors of OAKOC will help commanders gain a better understanding of their environment and will ultimately aid

Cyber Flag 14-1 participants analyze exercise scenario in red flag building at Nellis Air Force Base, Nevada, November 2013 (U.S. Air Force/Christopher Tam)

them in their ability to define what terrain is worth fighting to control. The commanders will continue planning but at all times will ensure that they are protecting or dominating the areas that they defined as key. They will tie these pieces of terrain to objectives and task their subordinate elements to ensure that their force owns these areas or a combination of these areas throughout the operation.

Context Matters

When defining key terrain, planners must understand that context matters. Key terrain is situation- and context-dependent, or relative to specific objectives of a given mission. Understanding this point will aid in joint planners' ability to remain involved throughout the entire Joint Operations Planning Process (JOPP). It is important for planners, regardless of function or expertise, to understand where they fit into the planning process. It is equally, if not more, important for planners to be able to transition from strategic and operational to tactical objectives and vice versa.

When planners receive a mission, the planning process begins with gaining an understanding of the operational environment. This step is critical throughout all levels of war, but one can argue that depending on the level at which the operation occurs, the key terrain will be different. The major difference originates in the narrowing scope, span of control, and objectives resident at each level of war: strategic, operational, or tactical.[15] Tactical-level operations will identify specific requirements and capabilities needed to achieve their objectives, which are nested under the achievement of the operational and strategic objectives. Although the desired endstates may be similar, if not the same, the objectives will be substantially different as commanders at each level of war focus on objectives within their scope and areas of responsibility and influence. The difference in the objectives at each level of war will result in the identification of different critical assets and key terrain at each level. In many instances, the key terrain identified at the tactical level may be some of the same features identified at the operational level, but tactical-level commanders will always focus on terrain within their areas of operation specifically identified to increase their advantages for mission accomplishment.

Key Terrain Is Key Terrain

The importance of context highlights two key problems in the cyberspace domain. First, there is significant confusion in terminology within the CO community. The definition for key terrain is specifically defined in joint doctrine, but the CO community as a whole has spent a substantial amount of time and effort trying to create a separate definition just for cyberspace. Additionally, there is a tendency to use terms such as critical assets and

Two U.S. Marine Corps MV-22B Osprey tiltrotor aircraft participate in Valiant Shield 2014 in Tinian, Northern Mariana Islands, September 2014 (DOD/Alex Walters)

key terrain interchangeably. Second, there is a tendency to focus on tactical terrain at all levels within the CO community. USCYBERCOM, a sub-unified command that should arguably be operating at the operational and strategic levels of war, is often focused at the tactical level. The technical complexity and vast size of cyberspace push one to think that key terrain must be more complicated. This leads to a single organization trying to define key terrain across an entire warfighting domain. That belief is flawed and could be simplified if the community focused on specific, mission-related objectives within its span of control. These efforts must be decentralized and pushed down to the appropriate headquarters at each level of war.

Defining key terrain in cyberspace should follow the same doctrinal processes as the identification of key terrain in any of the other warfighting domains. There is no need to create a separate definition for *cyber key terrain*, as the joint definition for key terrain is adequate and applicable across all domains. Planners at the appropriate levels should seek to identify key terrain in relation to the specific objectives of their missions. This involves developing an understanding of the operational environment, to include the cyberspace aspects of that environment, evaluating terrain from an OAKOC perspective, determining critical assets, and identifying terrain that gives the attackers or defenders a marked advantage in relation to achieving their mission objectives. What makes key terrain key terrain is the context of the feature in relation to mission and objectives. The terrain may be any of the features listed earlier, but it is the context that really matters. Approaching the problem of identifying key terrain in cyberspace from this perspective should help planners at all levels to better understand and frame the problem.

Recommendations

The Joint Chiefs of Staff should add guidance to Joint Publication 3-12, *Cyberspace Operations*, to assist planners in the identification of key terrain within the context of missions and objectives. This will prevent cyberspace planners from operating in a vacuum and failing to align their operations to the overall mission. Additionally, the Joint Chiefs should consider updating doctrine to emphasize the use of the joint functions to evaluate operations in cyberspace at all levels of planning, just as they do in the physical domains.

A joint lexicon should be immediately established to enable the synchronization of CO across the joint force. This would include updating the definition of the

Critical Asset List to include cyberspace threats. A suggested definition is: a prioritized list of assets or areas, normally identified by phase of the operation and approved by the joint force commander, that should be defended against air, missile, and cyberspace threats.

A final recommendation is that CO should be integrated into both the joint education process and JOPP as a standard part of an operations planning team. Cyberspace operations affect all the physical domains and every joint function. Planners must be familiar with the effect that cyberspace consequences can have on their domain and with how the operations in their domain can affect CO. While CO may be a highly technical field, a joint planner only needs to understand the *what* to look for of CO and not the *how* to look. When CO is properly represented in the joint planning process, the planning group will rely on its cyberspace planner to determine the *how*. Only when planners firmly understand the role and potential impact of cyberspace in the planning process can the true value of CO be leveraged.

Conclusion

Although the technology and environment of cyberspace are vastly different from those of the physical domains, the process of identifying key terrain in cyberspace is the same as the process used in the other domains. Cyberspace planners mistakenly try to create a process isolated from the other domains and ignore key integrated planning concepts. Instead, the foundations of JOPP must be used during cyberspace planning and the identification of key terrain to ensure that cyberspace operations are aligned with the objectives throughout the levels of war. While the first inclination of cyberspace operators is to defend everything, the context of the mission should be the driving factor that determines the allocation of efforts and resources.

In addition to adhering to the principles of the planning process, cyberspace operators must have a common lexicon across the joint force. Planners must understand the difference between key terrain and critical assets in order to synchronize efforts between the strategic, operational, and tactical levels of planning. They must also realize that key terrain at one level of war may be different from that of another.

The lack of a common CO lexicon and the misidentification of key terrain in cyberspace indicate that the real problem is that the planning process lacks unification and the inclusion of CO representation. The JOPP forces planners to consider the joint functions during plan development but does not go beyond command and control when considering cyberspace. Since cyberspace touches all the joint functions, serious consideration must be given to cyberspace operations to create a truly comprehensive plan. This can only be done if cyberspace operators have a seat at the planning table from beginning to end of the joint planning process. **JFQ**

Notes

[1] Frederick W. Kagan, *Finding the Target: The Transformation of American Military Policy* (New York: Encounter Books, 2006).

[2] Jeffrey R. Witsken, "Network-Centric Warfare: Implications for Operational Design," U.S. Army Command and General Staff College, 2002.

[3] Joint Publication (JP) 3-12 (R), *Cyberspace Operations* (Washington, DC: The Joint Staff, 2010).

[4] Ben FitzGerald and Parker Wright, "Decentralizing Cyber Command and Control," Disruptive Defense Papers, April 2014.

[5] Jared Serbu, "U.S. Cyber Command Wants DISA to Take Greater Role in DOD Cyber Defense," Federal News Radio, May 29, 2014.

[6] John R. Mills, "The Key Terrain of Cyber," *Georgetown Journal of International Affairs*, March 23, 2013, 99–107.

[7] David Raymond et al., "Key Terrain in Cyberspace: Seeking the High Ground," 6th International Conference on Cyber Conflict, 2014, Tallinn, Estonia, 287–300, available at <www.westpoint.edu/acc/SiteAssets/SitePages/Publications/06916409.pdf>.

[8] Deborah Bodeau, Richard Graubart, and William Heinbockel, "Mapping the Cyber Terrain: Enabling Cyber Defensibility Claims and Hypotheses to Be Stated and Evaluated with Greater Rigor and Utility," MITRE, February 2014, available at <www.mitre.org/publications/technical-papers/mapping-the-cyber-terrain-enabling-cyber-defensibility-claims-and>.

[9] Ibid.

[10] IdeaScale, "Design Defense Around Your Mission or Business Cyber Key Terrain," ACT-IAC Cybersecurity Innovation Initiative, September 2015.

[11] JP 1-02, *Department of Defense Dictionary of Military and Associated Terms* (Washington, DC: The Joint Staff, November 2010, as amended through February 15, 2016).

[12] Ibid.

[13] Field Manual 3-21.10 (7-10), *The Infantry Rifle Company* (Washington, DC: Headquarters Department of the Army, 2006).

[14] Ibid.

[15] George J. Franz, "Effective Synchronization and Integration of Effects Through Cyberspace for the Joint Warfighter," U.S. Cyber Command, 2012.

Standard Missile-3 is launched from Pearl Harbor–based Aegis cruiser USS *Lake Erie* enroute to intercept as part of Missile Defense Agency test of sea-based capability under development, yet tactically certified and deployed with U.S. Navy, November 2007 (U.S. Navy)

Expanding Zeus's Shield

A New Approach for Theater Ballistic Missile Defense in the Asia-Pacific Region

By Kevin Ayers

On September 17, 2009, President Barack Obama approved the creation of a "phased adaptive approach" to European missile defense, at the recommendation of Secretary of Defense Robert Gates and the Joint Chiefs of Staff.[1] As outlined in the original White House 2009 press release and in the 2010 Ballistic Missile Defense Report, the European Phased Adaptive Approach (EPAA) was developed to provide guidance on which and where certain ballistic missile defense capabilities would be deployed to the European theater. According to the overall plan, the approach would be executed in four phases. The first phase protected southern Europe from attack from Iran with sea-based Aegis Weapons Systems by 2011.[2] Phase two focused on deploying land-based missile defense capabilities to defend southern Europe by 2015. Phase three, scheduled for 2018, would deploy more capable systems against longer range Iranian missiles and have both a land- and sea-based capability.[3] The final phase was canceled in 2013 but was rescheduled for deployment in the 2020 timeframe and would have added defense capability against long-range ballistic missile threats from the Middle East.

In many ways, the European model is a unique situation. The components of a ballistic missile defense system (BMDS)

Kevin Ayers is Director of the Engagement Division of the Commercial GEOINT Activity.

have been developed by the United States and are being deployed within a longstanding multilateral security alliance. Other areas, like Southwest Asia or East Asia, lack such an alliance or even agreement on the utility of ballistic missile defenses. Therefore, the phased adaptive approach would require new diplomatic and security agreements for each region to meet its unique requirements. In the waning days of the Obama administration, no policy for how to deploy the BMDS in other regions has been clearly articulated.

To extend its protections to other regions, the phased adaptive approach should shift its focus from capability development to security alliance interoperability development. The United States continues to develop a multilayered ballistic missile defense capability against long-range missile threats from the Middle East. The need in the East Asian region, for example, is not to phase in a new BMDS capability but to create a strong security alliance structure that can deploy and execute the ballistic missile defense mission. This will maintain an extended deterrence capability for the United States and sustain regional security and stability. However, the key challenge will be to incentivize Japan and South Korea to join the United States in a new security alliance to effectively implement this approach.

Introduction

A ballistic missile defense architecture operates in three key phases. Ballistic missiles can be targeted before launch on the launcher. Once launched, the ballistic missile is under powered flight and considered to be in its boost phase. This phase will vary, depending on the size of the missile and how much fuel and oxidizer it has to burn. If a BMDS can intercept ballistic missiles either before they are launched or in this boost or early intercept phase, the missile cannot deploy its countermeasures. Once the ballistic missile has achieved its engine or motor cut-off point and is beginning to reach the apex of its ballistic arc, it has entered the mid-course phase. Depending on the range of the missile, this phase can be within the atmosphere—endo-atmospheric—or outside the atmosphere—exo-atmospheric. The Aegis Weapons System is primarily focused on short- to intermediate-range missiles in their mid-course and terminal phases.

Aegis is a sea-based air defense system based on phased array radar technology and linked to missile interceptors with advanced targeting seekers. The Aegis Weapons System—named after the shield used by the god Zeus in Greek mythology—was originally deployed by the U.S. Navy in 1983 on *Ticonderoga* (CG-47)-class cruisers and *Arleigh Burke* (DDG-51)-class destroyers.[4] The system's interceptor, the Standard Missile (SM), emerged from the Navy Theater Area Wide program in the 1990s as the SM-3.[5] The U.S. Missile Defense Agency (MDA) and the Japanese are developing the next generation of SM-3 interceptors, known as the Block IIA.

Shorter range theater-based ballistic missile defense has focused on the final phase of the missile's trajectory, the terminal phase. Work on intercepting shorter range systems stems back to 1949 with Project Pluto, which eventually evolved into the Army Air Defense System in the 1970s and the Phased Array Tracking Radar Intercept on Target (PATRIOT) program in 1976.[6] The PATRIOT system made a name for itself when Iraqi Scud short-range ballistic missiles were fired at Saudi Arabia and Israel during the Gulf War in 1991. While the new PATRIOT Advanced Capability–2 (PAC-2) interceptors demonstrated mixed results in intercepting the incoming Scuds in their terminal phase, they did highlight the requirement for theater ballistic missile defense capabilities for Army units in the field. Current systems such as the PAC-3 and Theater High-Altitude Area Defense (THAAD) systems provide a layered defense capability for the terminal phase. THAAD is capable of intercepting ballistic missiles earlier in the terminal phase at higher altitudes than PAC-3 systems.

Core to the success of any BMDS is the ability to identify, track, target, and intercept ballistic missile threats. The core system for tracking incoming missile raids is the AN/TPY-2 mobile radar, as well as fixed terrestrial and space-based assets. These sensors are integrated into the global Command and Control, Battle Management, and Communication (C2BMC) system. C2BMC ties together these BMDS capabilities into a coherent whole with the ground-based, mid-course defense system that is used for defending against limited intercontinental ballistic missile attack on the United States.

While many countries around the world have developed theater ballistic missiles—including Iran and North Korea, the countries against which the BMDS is designed to defend—China's sophistication in ballistic missile technology is second to none. In a BMD context, its history of regionally ranged missile proliferation and technology-sharing would reasonably make its regional-missile developments a primary concern. According to the Department of Defense (DOD) 2015 annual report to Congress, China has developed the technology to hold maritime forces at significant threat through its land-, sea-, space-, cyber-, and electromagnetic-based weapons; a significant portion of those threats come from China's robust theater and strategic ballistic missile force.[7] China's primary threat is regionally based, though, and likely focused on protecting what it views as its center of influence. Both Japan and South Korea have seen the need to protect themselves from China's increasing theater ballistic missile capability over the years, as its aggressive moves in the South China Sea have increased their concern. What would entice Japan and South Korea to partner with the United States in the BMDS?

Developing Co-Production Incentives: An SM-3 Block IIA Case Study

If we assume that a trilateral security alliance built around a BMDS provides enhanced security, technology, geographic, and economic value to the United States, then there must be significant incentives for Japan and South Korea to agree to enter into such an alli-

ance. Both countries have demonstrated at least an interest in U.S. BMDS, have existing bilateral security alliances with the United States, and have developed defense industry relationships within the framework of each bilateral alliance. Therefore, creating a trilateral alliance for ballistic missile defense should be self-evident from these relationships. However, in fact, such an alliance has not grown organically from the current security environment.

Much of South Korea's and Japan's preference for remaining in bilateral security alliances with the United States appears to originate from historical and diplomatic issues that have created suspicion between the two countries.[8] To create a trilateral security alliance, it is imperative that the United States create an incentive framework for both countries to work together in an integrated and interoperable ballistic missile defense architecture. The United States has deep experience working with Japan on co-development projects, including the SM-3 Block IIA interceptor program, and has similar co-development experience with South Korea in other defense industry projects. Therefore, if a segment of the BMDS can be identified that complements South Korea's comparative advantage within its defense industrial base and provides added value to the ballistic missile defense architecture with Japan and the United States, then the system will create enhanced deterrence in other security domains. The process for how the United States struck a deal with the Japanese to co-develop the SM-3 Block IIA interceptor provides a useful case study on this issue.

The Japanese first expressed an interest in U.S. ballistic missile defense research activities in the 1980s with their participation in the Western Pacific Missile Defense Architecture Study (WestPac) with U.S. defense companies.[9] The WestPac study looked at potential ballistic missile threats to Japan and likely system solutions.[10] By the mid-1990s, the United States and Japan were working through possible dual-use technology deals in the "Technology for Technology" program.[11] The hope for the United States was to create a two-way technology transfer between Japanese commercial and U.S. defense companies. However, by that time, the United States was more interested in Japan developing ballistic missile defense than the Japanese government was for itself.[12]

In 1998, the Japanese suffered what is known as the "Taepodong shock"; North Korea launched a developmental long-range ballistic missile over Japan's main island, Honshu.[13] From that point on, Japan's public and government officials were acutely aware of the potential ballistic missile threat from North Korea and actively sought a ballistic missile shield. By December 2003, Japan had agreed to move from just research and development with the United States to active development of a two-tiered ballistic missile defense system with PAC-3 firing units, the Aegis Weapons System, and SM-3 interceptors.[14] These capabilities were purchased through foreign military sales from Lockheed Martin and Raytheon and deployed between 2006 and 2007.[15] The dramatic shift in emphasis by the Japan Defense Agency was highlighted in their National Defense Program Outline—similar to the U.S. Quadrennial Defense Review—in December 2004, which focused attention on ballistic missile shields as the highest military priority and on China and North Korea as their primary security threats.[16] In addition, Japan also saw an advantage to lifting its ban on military exports to the United States, which would facilitate the co-development deals in the negotiation stage.[17] Elements within the Japanese government viewed the shift in focus as violating the interpretation of the Japanese constitution's provisions for collective self-defense.[18]

On the commercial side, Japan's largest defense corporations were looking to gain significant revenue from these potential missile defense research and production contracts. By 2005, Japan was preparing to invest $1.2 billion into missile defense, much of which would flow to Mitsubishi Heavy Industries and Kawasaki Heavy Industries, which combined made up 35 percent of the total defense market in Japan.[19] While Mitsubishi Heavy Industries likely had the most experience in systems integration, it also had a long history in dealing with the United States in co-development, beginning with the FS-X aircraft program in the 1980s.[20] Therefore, by 2007, a memorandum of agreement between Lockheed Martin and Mitsubishi Heavy Industries for licensed production of the PAC-3s had been signed, PAC-3 firing units purchased through foreign military sales had been deployed, and the Aegis Weapons System along with the SM Block I capability had been purchased for $458 million.[21] The next stage in this process was to create a more capable interceptor for the Japanese to defend against longer-range North Korean missiles.

The Japan Defense Agency and DOD signed a memorandum of understanding in December 2004 agreeing to develop a BMDS for Japan, which led to the co-development agreement to produce the next generation of SM-3 interceptors in 2006.[22] According to the agreement, Mitsubishi Heavy Industries and Raytheon would be the prime contractors for each country and responsible for overall management. Both the United States and Japan would split the overall development costs of what was to be the SM-3 Block IIA interceptor.[23]

Beginning with fiscal year (FY) 2007, the Japanese Ministry of Defense appropriated approximately ¥2 billion a year for the Joint Cooperative Development Program to produce the next generation SM-3 interceptor, the Block IIA.[24] By FY16, according to MDA budget submission documents, the program had an average cost of $273 million for research and development in the United States. Overall, the development program was estimated to cost $3.1 billion total (once Lockheed Martin's Multiple Kill Vehicle program had been canceled, which increased technology development costs for the SM-3 Block IIA).[25]

Flight testing for the SM-3 Block IIA began in 2015, with two tests of the system's operations in June and December.[26] To meet the EPAA schedule for deployment, the system will need to be tested for intercepts against at least

USS *Donald Cook* transits Black Sea as part of President Obama's European phased adaptive approach to ballistic missile defense in Europe, April 2014 (U.S. Navy/Edward Guttierrez III)

medium- and intermediate-range target missiles before 2018, when the next combined MDA integration test is scheduled.[27] In addition, the system will need to be tested for interoperability between the U.S. and Japanese navies, which have had previous success with joint operations during similar integration tests.

Four key themes led to the success of the SM-3 Block IIA Joint Cooperative Development Program. First, Japan's national interests were realigned from a conservative constitutional interpretation of its right for collective self-defense toward a more progressive interpretation. Much of this realignment was driven by North Korea's nuclear declarations in 1993 and its Taepodong 1 launch in 1998. Once Japan Defense Agency Director-General Gen Nakatani was replaced with Shigeru Ishiba—a supporter of the right of collective self-defense and ballistic missile defense—in the fall of 2002, the formal organizational inertia in Japan began to fall away.[28] By 2003, the majority of the general public believed that North Korea was a threat, and members of the opposition party saw the feasibility of a missile defense system for Japan.[29] Therefore, by 2003, Japan's national interests shifted toward ballistic missile defense.

Second, Japan's defense industrial base was technologically advanced and had experience working with the United States in weapons technology co-development. According to the U.S. Government Accountability Office, Japan was a world leader in aeronautics subsystem manufacturing and had the best developed aeronautical research, development, and production infrastructure in Asia.[30] Japan's experience with Lockheed Martin during the FS-X program led to deeper expertise in system design, development, and integration.[31] The corporation that gained the most from this experience was Mitsubishi Heavy Industries, which would become the lead co-producer of the SM-3 Block IIA interceptor.

Third, the flexibility of the ballistic missile defense architecture in the 1990s and early 2000s allowed for the integration of foreign partners. MDA's flexible acquisition capability, outside the normal Defense Department acquisition process, enabled flexible contracting for emerging defensive systems.[32] In addition, the Japanese agreed to participate in research, development, and procurement of an existing capability that they had been helping with since the program

was known as the Navy Theater Wide Defense program.[33]

Finally, the presence of U.S. military bases in Japan and their geographic proximity to key threats in Asia-Pacific provided incentives for both countries to collaborate over ballistic missile defense. In the event of a ballistic missile attack against Japan, potential targets include U.S. forces and Japanese civilian and military targets. The impetus to create a more integrated and interoperable system likely gave both countries added incentives to create the cooperative development program. Also, deploying PAC-3 and Aegis systems within Japan extended and expanded the range and number of available ships and units to intercept potential ballistic missile threats.

South Korea's Theater Missile Defense Orientation and the Prospects of Partnership

The United States and the Republic of Korea have been allied in a security partnership since the 1953 Mutual Defense Treaty was signed. Under that treaty, the United States continues to deploy 28,500 troops on the Korean Peninsula and provides for the collective defense of the republic.[34] The collective defense capabilities that the United States has deployed in South Korea include ballistic missile defense assets such as the PAC-3 system and potentially THAAD in the near future.[35] And even though South Korea has been active in purchasing point defense capabilities, such as the PAC-2 system, and developing indigenous capabilities to counter a potential invasion from North Korean conventional forces, it has depended on its diplomatic solutions in the face of the North's development of long-range ballistic missiles and nuclear warheads for those missiles.[36]

On January 12, 2016, North Korea conducted a nuclear test.[37] On February 8, 2016, North Korea launched a satellite with its long-range missile system.[38] The first event seemingly did not push South Korea from its preference for diplomatic solutions with the North; South Korean officials continued to be noncommittal toward purchasing enhanced ballistic missile defense assets, such as THAAD, from the United States. However, North Korea's space launch seemed to push the conversation with the United States toward purchasing and deploying South Korea's own and/or U.S. THAAD units on the peninsula.[39]

Up until February 2016, South Korea procured and developed air and missile defense systems for its point and area defense requirements, while balancing its perceived diplomatic needs for the region. South Korea has made significant investments in building three KDX-III cruisers with the Aegis Weapons System and has approved the upgrade of its PAC-2 batteries to PAC-3 by 2020. In addition, South Korea's Agency for Defense Development has developed a medium-range surface-to-air missile system with capabilities against ballistic missile and air targets—based on the Russian S-300 and S-400 surface-to-air missile systems—known as the Cheongung.[40] The Cheongung is intended for South Korea's multi-tiered and integrated Korean Air and Missile Defense system.[41]

South Korea's balance toward indigenous systems is likely due to its sensitive economic relationship with China and its goal of taking overall defensive command of the United Nations units still stationed in the South against North Korean invasion.[42] Also, South Korea has been reluctant to cooperate with Japan on ballistic missile defense. Creating its own indigenous capability gives them the option to avoid a reliance on Japan. Much of that reluctance has stemmed from historical legacies of the Japanese occupation of Korea before and during World War II, as well as the current geopolitical and economic relationships between China, Japan, and South Korea.[43] In November 2015, however, all three countries agreed to resume regular trilateral meetings on security and economic issues.[44]

Therefore, South Korea's defense industrial base has demonstrated its ability to work with foreign partners to develop military capabilities oriented toward air and missile defense, has shown recent sensitivity to potential threats from North Korea, and has demonstrated an opening toward future discussions with both Japan and China. South Korea also has a longstanding bilateral partnership with the United States in defending its homeland. For example, South Korea participated in co-development agreements with the United States in the Korean Fighter Program in the late 1980s. In that particular case, South Korea gained from the transfer of aerospace manufacturing and assembly know-how.[45] Much like with the Japanese co-production programs, the Koreans benefitted from their in-depth and invaluable experience working with U.S. aerospace firms. All of these elements appear to parallel Japan's situation in the late 1990s and early 2000s with regard to ballistic missile defense co-production partnerships.

South Korea's Comparative Advantage and the Needs of the Theater Ballistic Missile Defense Enterprise

According to IHS Jane's, South Korea's defense industrial base has developed and expanded like its commercial markets.[46] It is still dominated by large corporations—known as *chaebols*—that produce in a wide array of market segments. For example, almost all of the naval construction contracts are handled by Hyundai or Daewoo.[47] Its indigenous capabilities are capable of producing naval platforms, aircraft, armored vehicles, and tanks. South Korea's chaebols also have made significant— ₩1.5 trillion—financial investments in air and missile defense.

South Korea's experience with developing domestic high-end electronics for the commercial sector has paid dividends for its ability to manufacture command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) and battle management capabilities. On its Web site, LIG Nex1—formerly known as LG Precision—advertises long-range surveillance radar systems, maritime radar systems, and overhead sensors.[48] Given the maturity of the ballistic missile defense architecture with regard to interceptor technology, it makes sense

to leverage South Korea's expertise in C4ISR and battle management. South Korea, in collaboration with the United States, could make significant contributions to the integration and foreign interoperability in the C2BMC system. According to the director of the Office of Testing and Evaluation, C2BMC Spiral 8.2—scheduled to be deployed in fiscal years 2017 and 2018—does not have an engagement management capability.[49] Since U.S. systems operate over the Link-16 system, the South Koreans could be employed to develop a parallel standard for our foreign partners that seamlessly fuses their data into the overall C2BMC architecture.

The added bonus of creating a C4ISR and battle management development niche for South Korea is that it could integrate South Korea more closely in the architecture without immediately exacerbating its fragile relationships with Japan. South Korea's relationship with the Chinese may be fraying as well. South Korea's retort to the Chinese over the THAAD issue in March 2015 could be a sign of that tension.[50] Given the events with North Korea in January and February 2016, the impetus to provide a more advanced multi-layered capability within its missile defense system may incentivize South Korea to develop the next generation of command and control systems for the BMDS.

A New Approach for the Asia-Pacific Phased Adaptive Approach

Ballistic missile defense is about security. By employing these defensive capabilities, countries intend to reduce their risk of being attacked by adversaries with ballistic missiles. Therefore, it makes sense to incorporate these allies into the defensive architecture within the realm of their comparative advantages to share costs and capabilities. If the phased adaptive approach, as articulated in 2009, truly realizes the deployment of the Aegis Weapons System with SM-3 Block IIA interceptors by 2018, complemented by PATRIOT PAC-3, THAAD, and C2BMC spiral upgrades, then the ballistic missile defense architecture will have the defensive assets to globally deploy an integrated air and missile defense system by 2018.

In the Asia-Pacific region, two of our closest allies, Japan and South Korea, have demonstrated high technological competency and have a history of working with the United States in co-developing aerospace and defense systems. Also, they have demonstrated a long history of not working well together.[51] A phased approach with significant economic incentives should be sufficient to attract and retain Japan and South Korea in such an alliance. If the phased adaptive approach policy is going to be applied to the Asia-Pacific theater in the post-Obama administration, however, the new policy iteration should reflect the needs of the region. An integrated trilateral alliance structure between the United States, Japan, and South Korea would maximize the BMDS extended deterrence against countries with advanced or advancing ballistic missile capabilities such as North Korea and, in a regional context, China.

The value of this new approach focuses on enhancing the extended deterrence provided by a trilateral ballistic missile defense architecture, while lowering the cost through co-development partnerships and burdensharing. While per-unit costs of the SM-3 Block IIA are higher than those of the Block IB, the added capability of the new system enhances its marginal value. Also, using one integrated command, control, battle management, and communication system with multiple radar and electro-optical tracking systems on land and sea creates a vastly superior capability than if deployed by just the United States. Lastly, the symbolic deterrence of a trilateral alliance structure for the defensive architecture may be the greatest value proposition for this new policy. The inclusion of Japan and South Korea in developing and deploying a system sends a clear message to China regarding the unity of effort and command in the region for integrated air and missile defense.[52]

To communicate the superior deterrent value of this approach, partner countries will need to actively use integrated training and testing as the primary communications channel. A trilateral security alliance will consolidate capabilities, leverage comparative advantages, and create formal channels of communication among all three countries' diplomatic, political, military, and industrial spheres. Closer communication channels in these areas greatly enhance the unity of effort and command. When coupled with the symbolic impact of a trilateral security alliance deploying ballistic missile defenses in the area, these communication channels could dramatically improve the influence of a theater ballistic missile defense system. A unilateral effort by the United States would demonstrate a unity of effort and command militarily, but could not have the same impact diplomatically, politically, or industrially.

Assessment of New Approach

This Asia-Pacific–oriented phased adaptive approach presents some key strengths, weaknesses, opportunities, and threats. The primary strength of a trilateral security alliance for ballistic missile defense between South Korea, Japan, and the United States is the deep working relationship our militaries and defense industrial bases have established over the decades. Also, formal channels enable tighter integration and interoperability between all three countries when conducting tests and joint operations in the region. Ultimately, this creates a more powerful force multiplier for ballistic missile defense.

The weakness of the approach is its assumption that South Korea and Japan will continue to have the incentive to provide key components for major systems in the architecture. The alliance would have a certain amount of assumed interdependency that would be uncomfortable for the United States. It seems to make sense that the United States would prefer to maintain an independent ballistic missile defense capability in the region to hedge its bets. However, the power of a formal trilateral security alliance that relies upon an interdependency model creates a level of deterrent credibility for the system that would be absent in an informal confederation of nations. Also, the level of risk introduced with more participating

Sea-Based X-Band radar successfully traveled from Pearl Harbor, Hawaii, to waters off Aleutian Island chain of Alaska, February 2007 (Missile Defense Agency)

countries would increase. The number of resources required to maintain the diplomatic, political, economic, military, and informational flows involved in such an alliance will be significant.

The new approach creates significant opportunities to test the concepts of a federated defense structure in the Asia-Pacific region. By establishing a trilateral security alliance, the United States can help better integrate Japan and South Korea into the BMDS. Both have sought better integration and interoperability in the midst of their respective historical issues, and co-development opens up possibilities for advanced technology transfer from and to each member of the alliance.[53] For example, South Korea can learn better integration techniques for battle management electronics systems. The largest opportunity for this new approach is enhancing security in all regions of Asia. The establishment of a regional ballistic missile shield focused on two destabilizing nations with advanced ballistic missile capabilities has the potential to nullify or weaken their coercive capabilities against weaker countries.

Finally, the threats to the phased adaptive approach are based in national interests. With three different countries united in a security alliance to counter aggressive behavior by North Korea and China, three different sets of national interests will find ways to complement and clash with each other. South Korea's tendency toward economic partnerships with China may create friction in the alliance.[54] Japan's historical tension with South Korea will continue to be a seam that China or North Korea could exploit. China will use all of its instruments of power—diplomatic, informational, military, and economic—to break apart or negate the effectiveness of the security alliance. Also, it is entirely possible that new capabilities or threats may emerge in the region that render ballistic missile defense irrelevant. Even though the alliance presents a flexible framework regardless of capability, transitioning to a new defensive capability may create costs that Japan and South Korea may not want to bear.

Conclusion

The main theme of this discussion has been on creating an appropriate policy recommendation for the Asia-Pacific implementation of the ballistic missile defense architecture. The development of a trilateral security alliance focused around a ballistic missile defense system seems to be the correct answer. The United States must be prepared to deploy appropriate BMDS assets and resources to build this capability. It is likely that the implementation of this new approach could incur high costs and require increased attention and resources to maintain. However, the unknown factor is the amount of willingness within the three countries to make those investments. In recent months, both Japan and South Korea have appeared to be willing to move forward in that direction. However, the outcome of the U.S. election will determine how willing we are to make that kind of investment with our Asia-Pacific partners. What is clear is that the future will be increasingly complex and that the implementation of this new policy recommendation will take time and energy. **JFQ**

Notes

[1] White House, "Fact Sheet: United States Missile Defense Policy: A Phased Adaptive Approach to Ballistic Missile Defense in Europe," September 17, 2009, 1, available at <www.whitehouse.gov/the-press-office/fact-sheet-us-missile-defense-policy-a-phased-adaptive-approach-missile-defense-eur>.

[2] Department of Defense (DOD), *Ballistic Missile Defense Report* (Washington, DC: DOD, 2010), 24, available at <www.defense.gov/Portals/1/features/defenseReviews/BMDR/BMDR_as_of_26JAN10_0630_for_web.pdf>.

[3] Ibid.

[4] Ronald O'Rourke, *Navy Aegis Ballistic Missile Defense (BMD) Program: Background and Issues for Congress*, RL33745 (Washington, DC: Congressional Research Service, 2015), 1–2, available at <https://www.fas.org/sgp/crs/weapons/RL33745.pdf>.

[5] Missile Defense Agency, *Missile Defense: The First Seventy Years* (Washington, DC: DOD, 2013), 3, available at <www.mda.mil/global/documents/pdf/first70.pdf>.

[6] Ibid., 6.

[7] *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2015* (Washington, DC: DOD, 2015), 33, available at <www.defense.gov/Portals/1/Documents/pubs/2015_China_Military_Power_Report.pdf>.

[8] Brad Glosserman and Scott A. Snyder, *The*

Japan-South Korea Identity Clash: East Asian Security and the United States (New York: Columbia University Press, 2015), 2, available at <www.jstor.org/stable/10.7312/glos17170>.

[9] Sugio Takahashi, "Transformation of Japan's Defence Industry? Assessing the Impact of the Revolution in Military Affairs," *Security Challenges* 4, no. 4 (Summer 2008), 111, available at <www.regionalsecurity.org.au/Resources/Files/vol4no4Takahashi.pdf>.

[10] Steven A. Hildreth and Gary J. Pagliano, *Theater Missile Defense and Technology Cooperation: Implications for the United States–Japan Relationship* (Washington, DC: Congressional Research Service, 1995), 4.

[11] Ibid., 2.

[12] Ibid., 4.

[13] Neil Weinberg and Kiyoe Minami, "Rearming Japan: The Front Line," *Forbes*, September 19, 2005, 155, available at <www.forbes.com/forbes/2005/0919/154.html>.

[14] Richard A. Bitzinger, "Asia-Pacific Missile Defense Cooperation and the United States 2004–2005: A Mixed Bag," *Special Assessment: The Asia-Pacific and the United States 2004–2005* (Honolulu: Asia-Pacific Center for Security Studies, 2005), 2–3, available at <http://apcss.org/Publications/SAS/APandtheUS/BitzingerMissile1.pdf>.

[15] Maxim Shabalin, "The Logic of Ballistic Missile Defence Procurement in Japan (1994–2007): From Hedging Through Self-Imposed Restraints Toward Hedging from the Position of Military Strength" (Ph.D. diss., University of Oxford, 2011), 139, available at <http://ora.ox.ac.uk/objects/uuid:73b6dc56-e10b-4bc4-abba-0abcd3a0d204>.

[16] Weinberg and Minami, 156.

[17] Christopher Hughes, "Chapter Four: Japan's Military-Industrial Complex," *The Adelphi Papers* 48, no. 403 (2008), 74, available at <http://dx.doi.org/10.1080/05679320902955252>.

[18] David Fouse, "Japan Gets Serious About Missile Defense: North Korean Crisis Pushes Debate," *Asia-Pacific Center for Security Studies* 2, no. 4 (June 2003), 2, available at <http://apcss.org/Publications/APSSS/JapanGetsSeriousAboutMissileDefense.pdf>.

[19] Weinberg and Minami, 160.

[20] General Accounting Office (GAO), *United States–Japan Cooperative Development: Progress on the FS-X Program Enhances Japanese Aerospace Capabilities*, GAO/NSIAD-95-145 (Washington, DC: GAO, August 1995), 16, available at <http://gao.gov/products/NSIAD-95-145>.

[21] Shabalin, 139.

[22] Ibid., 141.

[23] "Costs of U.S.-Japan Missile Defense Effort Increase," Reuters, August 4, 2009.

[24] Japanese Ministry of Defense, "Japan's BMD," Slide 8, PowerPoint presentation, 2010, available at <www.mod.go.jp/e/d_act/bmd/bmd.pdf>.

[25] "Costs of U.S.-Japan Missile Defense Effort Increase."

[26] Missile Defense Agency (MDA), "U.S.-Japan Cooperative Development Project Conducts Successful Flight Test of Standard Missile-3 Block IIA," MDA News Release (15-NEWS-0006, June 6, 2015), available at <www.mda.mil/news/15news0006.html>; MDA, "U.S.-Japan Cooperative Development Project Conducts Successful Flight Test of Standard Missile-3 Block IIA," MDA News Release (15-NEWS-0009, December 8, 2015), available at <www.mda.mil/news/15news0009.html>.

[27] *2014 Assessment of the Ballistic Missile Defense System (BMDS)* (Washington, DC: DOD, March 2015), 15, available at <www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA617330>.

[28] Fouse, 2.

[29] Ibid., 2, 3–4.

[30] GAO, *Asian Aeronautics: Technology Acquisition Drives Industry Development*, GAO/NASIAD-94-140 (Washington, DC: GAO, May 1994), 7–8, available at <http://gao.gov/products/NSIAD-94-140>.

[31] Ibid., 56.

[32] GAO, *Missile Defense: Opportunities Exist to Reduce Acquisition Risk and Improve Reporting on System Capabilities*, GAO-15-345 (Washington, DC: GAO, May 2015), 6, available at <www.gao.gov/assets/680/670048.pdf>.

[33] Takahashi, 112.

[34] Sioban J. Ledwith, *Joint Vision for the Korean Peninsula—Can We Get There?* (Carlisle Barracks, PA: U.S. Army War College, 2012), 1, available at <http://handle.dtic.mil/100.2/ADA561205>.

[35] Frank A. Rose, "Missile Defense and the United States Response to the North Korean Ballistic Missile and WMD Threat," prepared remarks to the Institute for Korean-American Studies, May 19, 2015, available at <www.state.gov/t/avc/rls/2015/242610.htm>.

[36] Hwee-Rhak Park, "South Korea's Defense Posture Against the North Korean Nuclear Threat: Dangerous Reluctance," *International Studies Review* 16, no. 1 (June 2015), 42, available at <www.icasinc.org/2015/2015l/2015lhrp.pdf>.

[37] Julian Ryall, "North Korea Claims Its Hydrogen Bomb Can 'Wipe Out the Whole U.S. Territory'," *The Telegraph* (London), January 12, 2016, available at <www.telegraph.co.uk/news/worldnews/asia/northkorea/12095069/North-Korea-claims-its-hydrogen-bomb-can-wipe-out-the-whole-US-territory.html>.

[38] Ju-min Park and Louis Charbonneau, "North Korean Rocket Puts Object into Space, Angers Neighbors, United States," Reuters, February 8, 2016, available at <www.reuters.com/article/us-northkorea-satellite-idUSKCN0VG00H>.

[39] Anna Fifield, "South Korea, United States to Start Talks on Anti-Missile System," *Washington Post*, February 7, 2016, available at <www.washingtonpost.com/world/south-korea-united-states-to-start-talks-on-thaad-anti-missile-system/2016/02/07/1eaf2df8-9dc4-45e3-8ff1-d76a25673dbe_story.html>. Also, Bruce Guilmain, e-mail to authors, April 15, 2016.

[40] Tamir Eshel, "Cheongung—A New MR-SAM for the South Korea Multi-Tier Defense System," *Defense-Update*, December 17, 2011, available at <http://defense-update.com/20111217_cheongung_mrsam.html>.

[41] Ibid.

[42] Gregory T. Kiley et al., *United States Force Posture Strategy in the Asia Pacific Region: An Independent Assessment* (Washington, DC: Center for Strategic and International Studies, 2012), 26, available at <http://csis.org/files/publication/120814_FINAL_PACOM_optimized.pdf>.

[43] Glosserman and Snyder, 2.

[44] "Japan, China, and South Korea 'Restore' Fraught Ties," BBC News, November 1, 2015, available at <www.bbc.com/news/world-asia-34691596>.

[45] Joseph E. Kelley, "United States–Korea Fighter Coproduction Program," testimony to the Subcommittee on Investigations, Committee on Armed Services, T-NSIAD-90-29, April 4, 1990, available at <www.gao.gov/products/T-NSIAD-90-29>.

[46] "South Korea—Defence Industry," *Jane's World Defence Industry*, December 7, 2015, 2, available at <https://janes-ihs-com.nduez-proxy.idm.oclc.org/Grid.aspx>.

[47] Ibid., 3.

[48] LIG Nex1, "Intelligence, Surveillance, and Reconnaissance," available at <https://www.lignex1.com/eng/company/intro.jsp>.

[49] "Command and Control, Battle Management and Communications (C2BMC)," available at <www.mda.mil/system/c2bmc.html>.

[50] Choe Sang-Hun, "South Korea Tells China Not to Meddle in Decision Over Missile System," *New York Times*, March 17, 2015, available at <www.nytimes.com/2015/03/18/world/asia/south-korea-tells-china-not-to-meddle-in-decision-over-missile-system.html>.

[51] Glosserman and Snyder, 97.

[52] Ian E. Rinehart, Steven A. Hildreth, and Susan V. Lawrence, *Ballistic Missile Defense in the Asia-Pacific Region: Cooperation and Opposition*, R43116 (Washington, DC: Congressional Research Service, 2015), 19, available at <https://www.fas.org/sgp/crs/nuke/R43116.pdf>.

[53] Michael J. Green, Kathleen H. Hicks, and Zack Cooper, *Federated Defense in Asia* (Washington, DC: Center for Strategic and International Studies, 2014), 1, available at <http://csis.org/files/publication/141120_Green_FederatedDefenseAsia_Web.pdf>.

[54] Glosserman and Snyder, 132.

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The NDU Foundation is proud to support the annual Secretary of Defense, Chairman of the Joint Chiefs of Staff, and *Joint Force Quarterly* essay competitions. NDU Press hosted the final round of judging on May 12–13, 2016, during which 23 faculty judges from 14 participating professional military education institutions selected the best entries in each category. The First Place winners in each of the three categories are published in the following pages.

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In 2016, the 10th annual competition was intended to stimulate new approaches to coordinated civilian and military action from a broad spectrum of civilian and military students. Essays were to address U.S. Government structure, policies, capabilities, resources, and/or practices and to provide creative, feasible ideas on how best to orchestrate the core competencies of our national security institution. The NDU Foundation awarded the first place winner a generous gift certificate from Amazon.com.

First Place
Major Lee M. Turcotte, USAF
Air Command and Staff College
"The Viability of Moral Dissent by the Military (or, Chapter 6 of the U.S. Truth and Reconciliation Commission: Conclusions Regarding the Second Internment of American Citizens)"

Second Place
Colonel David Christopher Menser, USA
U.S. Army War College
"Did the United States Lose China Again?"

Third Place
Lieutenant Colonel William H. Mengel, USA
U.S. Naval War College
"Untangling the Gordian Knot? The Socio-Cultural Challenge of Syria"

Chairman of the Joint Chiefs of Staff Strategic Essay Competition

This annual competition, in its 35th year in 2016, challenges students at the Nation's joint professional military education institutions to write research papers or articles about significant aspects of national security strategy to stimulate strategic thinking, promote well-written research, and contribute to a broader security debate among professionals. The first place winners in each category received a generous Amazon.com gift certificate courtesy of the NDU Foundation.

Strategic Research Paper

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Air War College
"Civil Order and Governance as Military Responsibilities"

Second Place
Major Jeff Wong, USMCR
Marine Corps Command and Staff College
"Interwar-Period Gaming Today for Conflicts Tomorrow: Press Start to Play"

Third Place
Lieutenant Colonel Max Pearson, USAF
National War College
"Convenient but Dangerous: Understanding China's Defense"

Strategy Article

First Place
Lieutenant Colonel Jeffrey Dean McCoy, USA
U.S. Army War College
"The Palestinian Authority Security Force: Future Prospects"

Second Place
Lieutenant Colonel Jaren Keith Price, USA
U.S. Army War College
"The Rebirth of Japan's Amphibious Forces: Regional Security Implications"

Third Place
Lieutenant Colonel Benjamin R. Jonsson, USAF
U.S. Army War College
"Terminating Conflict with the Islamic State"

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Dorothy E. Denning, "Rethinking the Cyber Domain and Deterrence," *JFQ* 77 (2nd Quarter 2015)

Best Features Article
Vincent A. Manzo, "After the First Shots: Managing Escalation in Northeast Asia," *JFQ* 77 (2nd Quarter 2015)

Best JPME Today Article
Burton H. Catledge, "Debunking Technical Competency as a Sole Source of Innovation," *JFQ* 76 (1st Quarter 2015)

Best Recall Article
John Erath, "Union Success in the Civil War and Lessons for Strategic Leaders," *JFQ* 77 (2nd Quarter 2015)

Best Commentary Article
William M. Marcellino, "Revisioning Strategic Communication through Rhetoric and Discourse Analysis," *JFQ* 76 (1st Quarter 2015)

Distinguished Judges

Twenty-three senior faculty members from the 14 participating PME institutions took time out of their busy schedules to serve as judges. Their personal dedication and professional excellence ensured a strong and credible competition.

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Not shown: Dr. Antulia (Tony) Echevarria, U.S. Army War College; Dr. Richard B. Andres, National War College; Dr. Larry D. Miller, U.S. Army War College; Mr. Larry Garber, Eisenhower School; Dr. James Lacey, Marine Corps War College; Mr. John L. O'Brien, Information Resources Management College; Dr. Harold R. Winton, School of Advanced Air and Space Studies.

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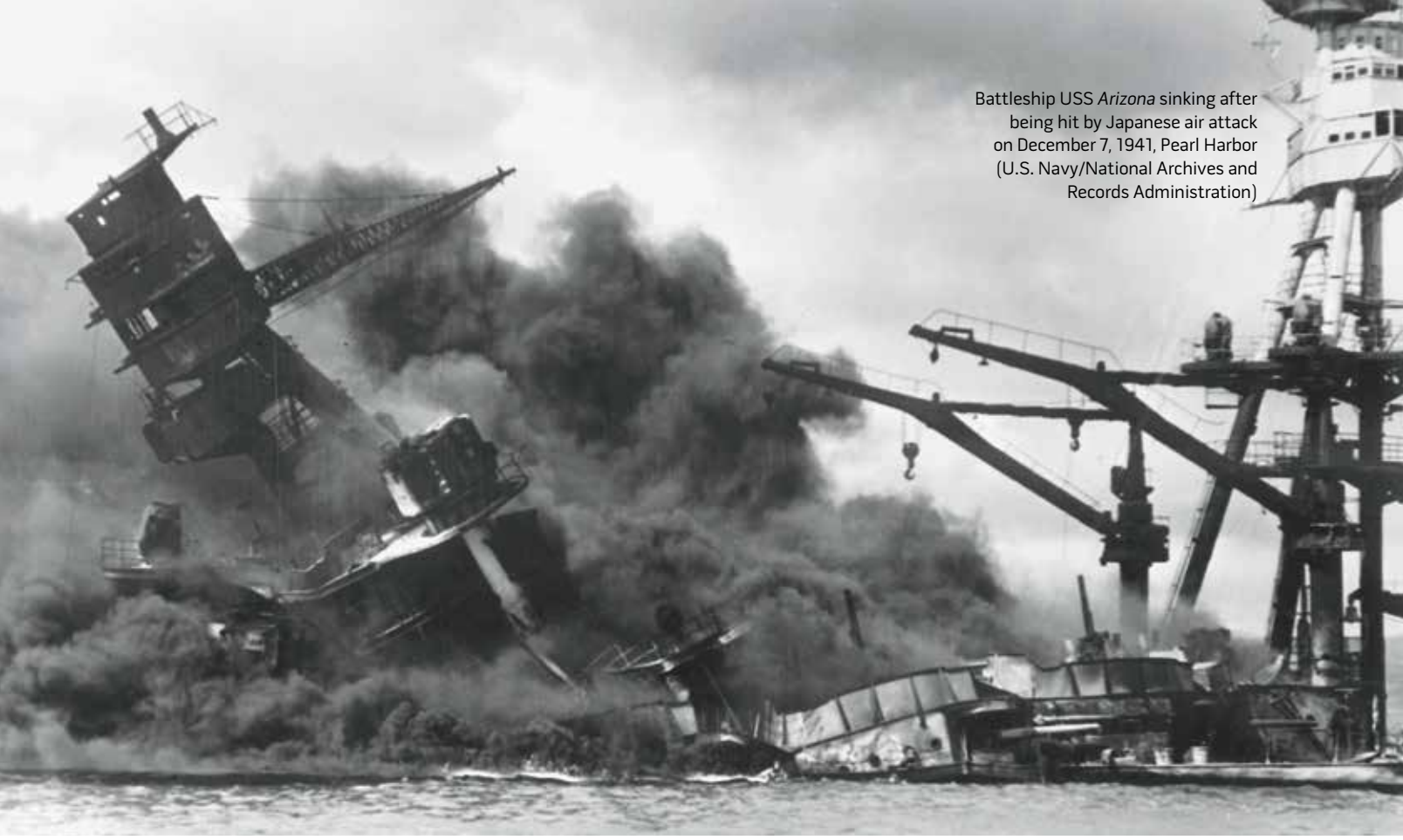


Battleship USS *Arizona* sinking after being hit by Japanese air attack on December 7, 1941, Pearl Harbor (U.S. Navy/National Archives and Records Administration)

The Viability of Moral Dissent by the Military

(or, Chapter 6 of the U.S. Truth and Reconciliation Commission: Conclusions Regarding the Second Internment of American Citizens)

By Lee M. Turcotte

Stand up amid the general hurricane, thy one tost sapling cannot, Starbuck! And what is it? Reckon it. 'Tis but to help strike a fin; no wondrous feat for Starbuck. What is it more? From this one poor hunt, then, the best lance out of all Nantucket, surely he will not hang back, when every foremast-hand has clutched a whetstone. Ah! Constrainings seize thee; I see! The billow lifts thee! Speak, but speak!—Aye, aye! thy silence, then, that voices thee.

—Captain Ahab, Moby-Dick

This article is not a partisan statement, although it unequivocally judges the rising tide of nationalism, isolationism, xenophobia, and anti-Islamic rhetoric occurring throughout the West. While anti-Islamic rhetoric and actions are integral to the scenario described herein, the characters are fictional and not analogous to any military or political figure currently in a position of authority or running for office. The political affiliation of the President in the scenario is deliberately unstated. No political party has a monopoly on or immunity from ugly ideas.

The concept for this article began with what I thought was a wildly unlikely hypothetical situation of military involvement in the internment of American citizens. Nationalistic, xenophobic discourse in Europe and the United States led me to wonder about the moral and constitutional implications of the military's refusal to follow such guidance from civilian authorities, should it be directed.

My knowledge of the internment of Japanese-Americans during World War II stopped at the fact that there was a Japanese internment; I thought the military could not have been involved. This ignorance is embarrassing, but it was shared by all of my colleagues with whom I initially discussed this scenario. None of us had any idea about the U.S. Army's role in 1942. We assumed it was a domestic operation because of Posse Comitatus and other legal restraints on the use of Federal troops domestically.

I was horrified by the details of *Personal Justice Denied*, the final report of the Commission on Wartime Relocation and Internment of Civilians, and particularly the description of how abject racism yielded "military necessity" as the justification for interning Japanese-American citizens. Instead of being a farfetched thought experiment, this article became a straightforward question: "Can this happen again?"

Major Lee M. Turcotte, USAF, wrote this essay while a Student at the Air Command and Staff College. It won the 2016 Secretary of Defense National Security Essay Competition.

This article explores whether there is ever a moral imperative for the military—primarily senior military leaders—to refuse to obey the direction of civilian leaders. I believe the answer is yes. In practice, though, disobedience on moral grounds is exceedingly unlikely. The year in the scenario is unstated, but the moral and racial questions of this article are urgent. Security environments, threat perceptions, and moral thresholds can shift more quickly than many people care to acknowledge. Moral debate is not a luxury for other, more secure times.

The scenario's premise requires acceptance of several assumptions. First, regardless of the exact details, Islamists conduct a series of domestic attacks sufficient to generate widespread and enduring fear. The President declares a state of emergency and directs the military to intern Muslim citizens domestically until loyalties can be determined and security reestablished. Congress backs the President, but the Supreme Court declines to intervene, deferring to the Executive in a time of national emergency. While this scenario involves Muslims, similar situations may arise in regard to any ethnicity, ideology, allegiance, or religious affiliation. The potential scenarios are, unfortunately, limited only by one's imagination.

The following, except for explicit historical references and civil-military relations discussions, is a work of fiction.

Part 1. Historical Context

On February 19, 1942, President Franklin D. Roosevelt signed Executive Order (EO) 9066, authorizing the internment of 120,000 Japanese-Americans on the West Coast, a plan justified and largely executed by the United States Army. For fifty years after World War II, scholars, Presidential administrations, and Congresses condemned the Japanese Internment more emphatically and remorsefully than any other injustice in American history.

Less than a century later, in compliance with Executive Order 15022, the U.S. military's U.S. Northern Command (USNORTHCOM) established Joint Task Force–Freedom to plan and execute the internment of Muslim citizens and resident aliens in the United States. The signing of EO 15022 was not an exact recapitulation of American history, but any attempt to understand the military's involvement and culpability in the domestic internment of Muslim Americans (the Second Internment) must begin with established facts of the internment of Japanese-Americans during World War II (the First Internment).[1] *Personal Justice Denied* is the definitive accounting of the First Internment. Its clarity, honesty, and balance serve as the inspiration for the U.S. Truth and Reconciliation Commission's mandate to understand and illuminate injustices perpetrated by the U.S. Government, with a view toward reconciliation and the prevention of additional injustices in the future.

Immediately following the Japanese attack on Pearl Harbor on December 7, 1941, the U.S. Army began establishing regional defense commands with geographic responsibility for various portions of the United States. Western Defense Command (WDC) was the first to be established, with Lieutenant General John Dewitt taking command on December 11, 1941.[2] In the 10 weeks after its establishment, WDC assessed the West Coast security situation and concluded that the Japanese population posed a threat to both military and national security. In hindsight, WDC's eventual justification of "military necessity" to evacuate and exclude Japanese-Americans from the West Coast was wholly unsubstantiated by any reasonable standard of military intelligence. General Dewitt's final justification of military necessity was unapologetically racist[3] and culminated with a staggering assertion worth preserving in the public awareness:

There are indications that [over 112,000 potential enemies, of Japanese extraction] *are organized and ready for concerted action at a favorable opportunity. The very fact that no sabotage has taken place to date is a disturbing and confirming indication that such action will be taken.*[4]

The same perverse logic was not applicable to the origins of the Second

Internment. Lone-wolf attacks from Islamists had occurred, though no available evidence suggests a widespread or even nascent conspiracy. However, such ironclad logic and fallacious rhetoric echo across both internments, the memory of which must continue to serve as a restraint on threat inflation and arguments of military necessity.

Despite the vitriol of General Dewitt's justification for excluding the Japanese from the West Coast, the military can only share in the blame. Congress and the public also pressed for exclusion of Japanese citizens based on fear and racial hostility. *Personal Justice Denied* summarizes the situation thusly: "The governmental decisions of 1942 were not the work of a few men driven by animus, but decisions supported or accepted by public servants from nearly every part of the political spectrum. Nor did sustained or vocal opposition come from the American public."[5] WDC's attitude mirrored public sentiment, except that the military also wielded the rhetorical cudgel of "military necessity." After extended debate within WDC and between Secretary of War Henry Stimson and various Federal agencies, President Franklin D. Roosevelt signed EO 9066 on February 19, 1942. With additional Federal support, WDC orchestrated the evacuation and exclusion of 120,000 Japanese-Americans from the West Coast.

Historical judgment of the First Internment is marked by consistent, unambiguous condemnation. President Gerald Ford formally terminated the authority of EO 9066 on February 19, 1976, with a statement that the evacuation of Japanese-Americans was a tragedy and a national mistake.[6] President Jimmy Carter recommended establishment of the Commission on Wartime Relocation and Internment of Civilians in 1980. Congress authorized the commission, which finalized *Personal Justice Denied* in 1982.

Personal Justice Denied opened by calling the First Internment an "extraordinary and unique" event in American history and a "grave injustice" shaped by "race prejudice, war hysteria and a failure of political leadership."[7] Congress then passed the Civil Liberties Act of 1987, which contains near-verbatim excerpts from *Personal Justice Denied*, most notably the recognition of "grave injustice," the acknowledgment that "these actions were without security reasons," and the description of motivations of prejudice, hysteria, and leadership failure.[8] Congress also apologized on behalf of the Nation and authorized reparations. President Ronald Reagan signed the Civil Liberties Act of 1987 into law on August 10, 1988, with public comments on how the internment was a "grave wrong" and "a mistake . . . based solely on race."[9]

After taking office, President George H.W. Bush signed the letters of apology that accompanied reparations to internees. In 1992, he approved an amendment to the Civil Liberties Act to address technical issues with the payment of reparations. In his remarks after signing the amendment, he called the internment "one of the darkest incidents in American constitutional history" and reiterated the need "to do everything possible to ensure that such a grave wrong is never repeated."[10] Four consecutive Presidential administrations condemned the First Internment and, with the support of Congress, the U.S. Government took the exceedingly rare step of paying reparations.

Despite this unambiguous acknowledgment of wrongdoing, the collective statements of the government regarding the First Internment are framed primarily in terms of justice, not morality. *Personal Justice Denied* refers to lapses of constitutional commitment and democratic values. It offers a warning that American exceptionalism can lead to complacency toward "evil-doing" elsewhere and an insistence that "it can't happen here," even though "it did happen here."[11] Crucially, while *Personal Justice Denied* questions the decisionmaking process of the U.S. Army and WDC leading up to EO 9066, it does not address civil-military relations or whether the military's active role in identifying citizens as threats and then taking action against them was appropriate for Federal military forces.

Likewise, the U.S. Army's military history of its defense of the Western Hemisphere against Axis attack during World War II does not question the appropriateness of the military's role in the First Internment. *Guarding the United States and Its Outposts* recounts Western Hemisphere defense efforts, with a chapter devoted to a factual description of the First Internment. The narrative focuses heavily on the decisionmaking process of General Dewitt's staff to justify the exclusion of the Japanese on the grounds of military necessity, with emphasis on external political and public influences supporting exclusion. The extent of the scrutiny of the Army's role, and the closest *Guarding the United States and Its Outposts* comes to self-reflection, is to ask, "What were the reasons that impelled the Army to carry out the mass evacuation?" This is settled one sentence later with: "The President and Congress had approved mass evacuation and the Secretary of War . . . thought it necessary to carry it out."[12] Thus ends the military's scrutiny of its involvement in one of the great injustices in American history.

Part 2. Resignation of the Chairman

The Second Internment differed substantially from the First in that its origins were primarily political, as opposed to being fueled by speculative military threat assessments. As insider attacks escalated, political figures, media pundits, and outspoken citizens began openly questioning whether collective action against Muslim citizens might be militarily necessary. This idea also surfaced in the military, but not in an organized way, and not because of command influence or the threat assessments of planning staffs. Most Servicemembers understood the intent if not the legal nuances of the Posse Comitatus Act, which forbade the Federal military from conducting domestic law enforcement activities. The military did not come up with the idea for the Second Internment, nor did it advocate for an internment as a matter of policy or necessity.

The most significant difference between the First and Second internments was the vehement opposition of the Chairman of the Joint Chiefs of Staff

Dressed in uniform marking service in World War I, this veteran enters Santa Anita assembly center for persons of Japanese ancestry evacuated from West Coast, April 5, 1942, Arcadia, California (National Archives and Records Administration/Clem Albers)

during discussions with the President and the President's senior advisors. The Chairman spent weeks arguing against internment of Muslims, in discussions that grew heated but remained professional. The Chairman's first argument was that internment of Muslim citizens was a disastrous strategy from a purely military perspective, since it would effectively legitimize the propaganda of violent extremist organizations asserting a war on Muslims by the West. The Chairman also predicted enough active resistance domestically, by both Muslims and the general public, to cause incidents of Federal troops using deadly force against American citizens on more than isolated occasions.

The Chairman knew he had no legitimate basis to step down in protest of flawed strategy. Internment as a strategy was by no means simply a matter of military expertise. It was inherently political and appealed to the widespread public sentiment that the only way to restore security was to take action against the Muslim population, regardless of their citizenship. Strategic disagreements aside, the Chairman's most fundamental reservation was the moral bankruptcy of internment and the damage to the military's standing in society that would result from its involvement. The Chairman insisted that the basic premise of a mass internment was antithetical to American values, constitutional principles, and basic human rights, citing the government's extensive record of apologies and restitution. The Presidential administration insisted it was a matter of supreme emergency.[13] Amends could be made after the fact, if necessary.

In a private meeting with the Secretary of Defense, Attorney General, and Chairman, the President announced the final decision to order the detention of Muslims domestically until security could be reestablished. Given the state of emergency, the Supreme Court would defer to the Executive in matters of national security; congressional support had already been secured. The Chairman resigned immediately, calling the decision a catastrophic strategy, a loathsome attack

Rose Fukuda and Roy Takeda, Manzanar Relocation Center, 1943 (Library of Congress/Ansel Adams)

on American values, and an unforgivable national disgrace, all the more so because similar events had occurred—and been roundly condemned—within living memory. The President was not entirely shocked by the Chairman's resignation and already had a successor in mind. The Chairman's successor was quickly confirmed; shortly thereafter, the President signed Executive Order 15022.

The Chairman's resignation represented the culmination of a multi-decade scholarly debate on the limits of military obedience to civilian authority, and whether resignation by generals in protest could ever be a legitimate means of dissent. The only comparable prior rupture in civil-military relations was General of the Army Douglas MacArthur's insubordination and subsequent firing by President Harry Truman. MacArthur's firing, however, left the civil-military relationship intact and served to reinforce the principle of absolute civilian control of the military. An understanding of the "resignation debate" is essential to comprehend the significance of the Chairman's resignation and the military's subsequent willingness to proceed with the internment.

Samuel Huntington laid the foundation for future discourse in American civil-military relations in his 1957 treatise *The Soldier and the State*. In addition to describing principles of objective and subjective civilian control of the military that have defined the civil-military relations field ever since, Huntington considered several forms of military dissent. The first he called operational and doctrinal dissent, which occurs among soldiers within the military chain of command, due primarily to differences in tactical knowledge or differing situational awareness between commanders and soldiers in the field.[14] As long as the soldier's justification for dissent supports the higher mission or objective of the organization, Huntington claimed this sort of dissent was justifiable.

Huntington's second form of dissent occurs at the level of civil-military interaction. At this level, the authority of the statesmen to decide to go to war is absolute. *Jus ad bellum* is not for the soldier to decide. "Superior political wisdom," Huntington claims, "must be accepted as fact," even in a political environment such as Nazi Germany.[15] Within war, however, when a statesman violates objective control (that is, intrudes into Huntington's esteemed realm of "autonomous military professionalism") and issues "militarily absurd" orders that fall "strictly within the military realm without any political implications," disobedience is justified.[16] This is the point at which the constraints of Huntington's theoretical model become apparent, given how sharply he delineates between political and military expertise. Even if the military agrees widely on apparently clear-cut strategic concerns, statesmen need only claim broader political implications, which cannot then be disputed by the military. Huntington's overly strict definitions neglect truths about politics and war recognized by Carl von Clausewitz at the dawn of the Napoleonic era in the early 1800s. In practice, as Clausewitz and the Chairman both realized, strategy and

politics cannot be disentangled. If civilian supremacy is to continue to be meaningful, dissent cannot be justified based on violations of objective control.

Huntington's third scenario for dissent is on the basis of illegal or unconstitutional orders from civilian authorities. Under these circumstances, the military must give "considerable presumption of validity to the opinion of the statesman." If the legitimately functioning branches of government, including and especially the judiciary, agree on the legality or constitutionality of an order, the military must obey.[17] This was the case for the Second Internment, a position the Chairman recognized all too clearly by the end of his final meeting with the President.

Morality is Huntington's final scenario for dissent. Individuals serving in the military do not and cannot "surrender to the civilian [the] right to make ultimate moral judgments."[18] If a statesman overrules morality for national interest, hewing to Michael Walzer's concept of supreme emergency, the soldier should obey except in the most extreme circumstances. Huntington offers no clarity about what these circumstances might be; he acknowledges genocide as morally intolerable, but expresses uncertainty about whether there could be countervailing factors against dissent in the face of genocidal orders.[19] In the end, Huntington leaves no meaningful options for dissent from political guidance, and he is especially unwilling to consider moral dissent in a substantive way.

Shortly after publication of *The Soldier and the State*, Samuel Finer added to the civil-military canon with a counterpoint to Huntington titled *The Man on Horseback*. Finer was concerned primarily with the military's growing influence in politics, specifically in the context of the military's institutional protectionism and advocacy for its own corporate interests. Finer criticizes Huntington's definition of professionalism as excessively strict and idealized, and while he recognizes civilian supremacy over the military,[20] he expresses concern about the blurring of lines between political and military institutions and the possibility of "military intervention" in politics. His definition of military intervention is informed by the actions of officers such as Douglas MacArthur, whom Finer criticizes for "inventing their own private notion of the national interest" and "drawing a distinction between nation and the government in power."[21] Furthermore, if military intervention takes place, it will likely be motivated by selfish corporate interests instead of the idealism of upholding the military's self-appointed "sacred trust" of supervising the Republic.[22]

Despite Finer's concerns about undue military corporate interests, he claims the military is generally reluctant to coerce the government's domestic opponents. "Foreign foes" are the enemy, not fellow nationals.[23] Finer provides British, German, and Turkish examples of domestic military intervention, but tellingly, he makes no mention of the U.S. Army's role in 1942. Since Finer is mostly concerned with creeping military influence in politics and not outright overthrow of the government, his concern apparently does not extend to actions where fellow nationals are defined as potential enemies in a time of war. He also cites an abundance of military interventions motivated by "national interest" in South America, but he dismisses this as unlikely in countries with free and fair elections.[24] Finer does not specifically address moral dissent. He does, however, add essential context for understanding the risks of the military's divergence from society, as corporate self-interest advances a self-proclaimed and potentially dangerous conception of national interest and constitutionality.

Scholars continued to debate the possibility of moral dissent well into the post-9/11 era, largely within Huntington's original framework of disobedience. In 2009, James Burk criticized Huntington for neglecting the viability and necessity of moral dissent, though he agreed with Huntington's premise that the decision to wage war is always political, leaving the military no space for dissent in the matter.[25] The military's refusal to obey political direction would "pose a constitutional crisis," given that the Constitution "established particular institutional arrangements . . . to secure . . . the preference for reason over coercion in public policymaking."[26] This arrangement did not put the military into a position of blind, thoughtless obedience, Burk claimed, as long as the military introduced its "expert knowledge into policy deliberations" to help inform political decisionmaking. If this was the case, the military would be acting with "responsible obedience."[27]

Though Burk's definition of responsible obedience already seems to rationalize away moral dissent at the level experienced by the Chairman, he went on to scrutinize Huntington's analysis of moral dissent. He rightly identified Huntington's failure to provide useful answers about when moral dissent might be appropriate, even with regard to extremes such as genocide. Burk criticized Huntington's use of "crude binary terms" to frame his discussion about disobedience and dissent, and then spent the remainder of his essay seeking to define a "protected space" for disobedience. Unfortunately, Burk's "protected spaces" all devolved into examples of moral action within a purely military context. These are valuable and legitimate examples in their own right, but they offer nothing to differentiate responsible obedience from moral dissent at the level of civil-military interaction.[28] Despite a tortured argument that clarifies dissent within the military chain of command but absolves senior leaders of moral responsibility via "responsible obedience," Burk concludes with an insight that neatly summarizes the question of moral dissent and seems to offer a way forward: "The ongoing task is to use reason to choose a course of action that is militarily effective and that is justifiable by the values and customs held by liberal democratic societies."[29] While it does not offer any tangible courses of action, this at least suggests moral or rational responsibility must still be somehow involved.

The nadir of the resignation debate occurred in 2015, as the featured article of a special edition of *Strategic Studies Quarterly*, an Air Force–sponsored publication on national and international security. The author, a U.S. Army major, fully accepted Burk's premise of

responsible obedience and went on to assert that military leaders "cannot claim any legitimate basis upon which to assess the national interest, the public will, or the common good."[30] In assessing other scholarly views on the possibility of dissent on narrow moral grounds, the author dismissed any protected space for moral resignation as "vanishingly small."[31] He also claimed that even if there was a morally defensible reason for resignation, there would be no way to do it privately or apolitically. Moreover, this would be the wrong avenue for resignation since "a professional standard upon which to judge the morality of consequences . . . would preclude individual resignation and instead dictate disobedience by the officer corps as a whole."[32] In the end, the author dismissed outright any consideration of moral resignation, claiming such concerns came at the expense of "far more pressing questions."[33]

Richard Kohn took a blunt but rather more productive stance. While acknowledging the fact that resignation directly assaults civilian authority, Kohn admitted the possibility of "truly extraordinary or dire circumstances" that might justify resignation. Contrary to the call for mutiny or mass disobedience in response to immoral guidance, Kohn suggested principled resignation must be done as quietly as possible in order to offer at least some protection to civilian control of the military.[34] Of course, this provides no clarity about what circumstances might justify such principled resignation, but Kohn at least left open the possibility that such a situation merited consideration and could legitimately occur.

While opinions were clearly mixed on the viability of principled resignation, the majority opinion left essentially no space for moral agency among military officers, particularly generals responsible for advising elected leaders. From a constitutional perspective, civilian control of the military is indeed absolute. Burk's concept of responsible obedience is little more than a minor qualification to Huntington's original claim that the military never gets to decide when the country goes to war. While proper in constitutional terms, the trouble with responsible obedience is how easily it can be used to absolve the military of any sort of moral responsibility, since the boundary between military strategy and politics is almost entirely subjective. No one meaningfully improved on Huntington's evasion of the question of moral dissent, until the Chairman put it to the test.

The Chairman was deeply conflicted about resigning. He exited the stage as Kohn recommended, quietly and as apolitically as possible. He never entertained the idea of trying to rally support and generate more widespread disobedience. This was a principled decision; he felt that leading a revolt would have been an attack on the country, and the country was worth preserving, if not his role within it. It was also a pragmatic decision. The Chairman had no expectation that he could unify the military in opposition to the internment of Muslims. The military was overwhelmingly Christian and the majority of Servicemembers identified as ideologically conservative, characteristics not inherently anti-Muslim but that placed the military in broad alignment with the President's policies. One other factor concerned the Chairman profoundly. He recognized a widespread sense of animosity toward Muslims throughout the Services, largely as a residual effect of decades of stalemated war in the Middle East and northern Africa. The singular embodiment of this racism was the slur *haji*, used for local nationals and insurgents alike. The Chairman expected this latent racism to be redirected onto the Muslim population in the course of the internment, and he was not wrong.

The historical novelty and apparent momentousness of the Chairman's resignation were matched only by its almost immediate irrelevance. In a striking historical similarity to Attorney General Francis Beverley Biddle's vocal dissent against the idea of a Japanese internment—Biddle took "coarse and threatening abuse for his unwillingness to join the stampede to mass evacuation"[35]—the Chairman's resignation was treated with utter contempt and vitriol by segments of the media. After a hail of accusations of cowardice and treason, the press moved on, and the newly appointed Chairman of the Joint Chiefs proceeded with implementation.

The moral motivation for the Chairman's resignation was unique, but the insignificance of resignation as a threat to civilian control—at least if used in the rarest of circumstances—was foreshadowed by the early retirement of Air Force Chief of Staff General Ronald Fogleman in 1997. Fogleman's retirement was the culmination of his frustration with providing "military advice the civilian leadership did not value for whatever reason." He also resented what he judged to be misguided political decisionmaking by then–Secretary of the Air Force Sheila Widnall and the Bill Clinton administration, the details of which, by Fogleman's accounting, compelled him to retire rather than continue to work in an environment where his expertise was "not valued by those in charge."[36] Fogleman's retirement, a sort of preemptive resignation, generated a flurry of debate about the state of civil-military relations at the time. Fogleman's attitude had hints of MacArthur-esque condescension toward his supposedly unprincipled civilian bosses. However, his description of his role as Air Force Chief of Staff—"it's a tour, not a sentence"—rings true in the sense that individuals must retain some personal agency to decide whether they can continue to fulfill their duties responsibly. Circumstances and motivations differed, but in each case retirement in protest and resignation had no meaningful effect on either the short-term functioning of the government or the long-term status of civil-military relations. Despite the tensions inherent in the American civil-military relationship, Huntingtonian professionalism and centuries of near-absolute military deference to civilian control have produced a structure resilient enough to absorb shocks and even, on occasion, to accommodate behavior considered either petulant or insubordinate.

Part 3. Conclusions

Principled refusal to obey civilian direction—outright rebellion or deceptive compliance with no intent to actually obey—is insubordination. There is no

Persons of Japanese ancestry arrive at Santa Anita Assembly center from San Pedro, California, April 5, 1942, Arcadia, California (National Archives and Records Administration/Clem Albers)

legal legitimacy to it so long as constitutionality is defined in terms of respecting the orders of elected leaders whose decisions are supported by all branches of government. There is no Platonic ideal of constitutionality, no higher knowledge the military can claim. The military never questioned its role in the First Internment because by definition it did the right thing.

This all seems perfectly logical, except for the existence of *Personal Justice Denied*. Moral dissent cannot be reconciled with the military's constitutional obligations, and yet individuals must retain their autonomy. There are circumstances that, while constitutional in the sense of being sanctioned by the government, are clearly immoral. Genocide is the default example, but possibilities short of genocide, however undefinable in advance, must surely also exceed a moral threshold. When these circumstances arise, even though personal thresholds will differ, individuals must retain the freedom to opt out. Those individuals will face consequences, as the Chairman did in the aftermath of his resignation. Principled resignation should be exceedingly rare, but it must have its place.

Critics might then ask, if principled resignation on moral grounds is acceptable, why is organized mass disobedience not also defensible *in extremis*? Revolt is unacceptable for a reason that Burk gets right. If political representation is the highest good, if the liberal democratic principles upon which the Constitution is based are the most foundational of all the values the United States represents, then revolt is intolerable for the same reason as secession: It is an attack on the state. Democratic societies are capable of implementing morally abhorrent policies, but taking down the state, and the representation of the citizenry with it, is not a legitimate solution. Perhaps there is a point at which a society must be destroyed to save it, to resort to the tragic logic of prior wars. If this is the case, then the moral limits of dissent by the military must remain bounded by faith, if nothing else, in the potential for

our constitutional system to correct itself, restore balance, and acknowledge its shortcomings.

Personal Justice Denied provides the more fundamental, less legalistic reason that the resignation debate failed to meaningfully consider moral autonomy. The discussion was predicated on the self-assurance that "it can't happen here." Despite values of honor, integrity, courage, and service, the military is a profoundly amoral institution. If constitutionality consists of enacting the will of the people, as manifested by the actions of elected leaders, the military will simply mirror—and sometimes facilitate—the eruptions of fear and injustice that history tells us are inevitable. This is not a problem that happens elsewhere, to supposedly lesser or different societies. It has happened here, repeatedly. Military professionals must understand and reckon with their potential role in this. The Chairman did the right thing, and yet the Second Internment proceeded. Moral dissent should be exceedingly rare. It cannot become a blanket justification for stepping down because of personal disagreements or minor misgivings, but when military leaders possess the clarity to see the nature of events as they unfold, they must retain the freedom to act. JFQ

Notes

[1] Executive Order 9066 authorized the Secretary of War and designated military commanders "to prescribe military areas . . . from which any or all persons may be excluded, and with respect to which, the right of any person to enter, remain in, or leave shall be subject to whatever restrictions the Secretary of War or the appropriate Military Commander may impose in his discretion." The Secretary of War and designated military commanders were also given the authority and direction to take necessary steps "to enforce compliance with the restrictions applicable to each Military area." Executive Order 9066, "Authorizing the Secretary of War to Prescribe Military Areas," February 19, 1942, General Records of the U.S. Government, Record Group 11, National Archives.

[2] Stetson Conn, Rose C. Engelman, and Byron Fairchild, *Guarding the United States and Its Outposts* (Washington, DC: U.S. Army Center of Military History, 1964), 33, available at <www.history.army.mil/books/wwii/guard-US/index.htm#contents>. Western Defense Command's geographic area of responsibility included Alaska, Arizona, California, Idaho, Montana, Nevada, Oregon, Utah, and Washington.

[3] Among other examples, Dewitt's final recommendation to the Secretary of War on the "Evacuation of Japanese and Other Subversive Persons from the Pacific Coast" states, "The Japanese race is an enemy race and while many second[-] and third[-]generation Japanese born on United States soil, possessed of United States citizenship, have become 'Americanized,' the racial strains are undiluted." Quoted in *Personal Justice Denied: Report of the Commission on Wartime Relocation and Internment of Civilians* (Washington, DC: The Commission on Wartime Relocation and Internment of Civilians, 1983), 82, available at <www.archives.gov/research/japanese-americans/justice-denied/>.

[4] Ibid.

[5] *Personal Justice Denied*, 6.

[6] Gerald Ford, "Proclamation 4417: Confirming the Termination of the Executive Order Authorizing Japanese-American Internment During World War II," February 19, 1976, available at <www.fordlibrarymuseum.gov/library/speeches/760111p.htm>.

[7] *Personal Justice Denied*, 3–8.

[8] U.S. House of Representatives, H.R. 442, Civil Liberties Act of 1987, 100th Cong., available at <www.congress.gov/bill/100th-congress/house-bill/442>.

[9] Ronald Reagan, statement on the signing of the Civil Liberties Act of 1987, August 10, 1988, accessed at <http://faculty.history.wisc.edu/archdeacon/404tja/redress.html>.

[10] George H.W. Bush, statement on the signing of the Civil Liberties Act Amendments of 1992, September 27, 1992, available at <www.gpo.gov/fdsys/pkg/PPP-1992-book2/pdf/PPP-1992-book2-doc-pg1681.pdf>.

[11] *Personal Justice Denied*, 6–7.

[12] Conn, Engelman, and Fairchild, 147.

[13] Michael Walzer, *Just and Unjust Wars* (New York: Basic Books, 1977), chapter 16.

[14] Samuel P. Huntington, *The Soldier and the State: The Theory and Politics of Civil-Military Relations* (Cambridge, MA: Belknap Press, 1957), 75.

[15] Ibid., 76–77.

[16] Ibid., 77, 83.

[17] Ibid., 78.

[18] Ibid.

[19] Ibid.

[20] Samuel E. Finer, *The Man on Horseback: The Role of the Military in Politics*, 2nd ed. (New Brunswick, NJ: Transaction Publishers, 2002), 25, 28.

[21] Ibid., 26.

[22] Ibid., 39.

[23] Ibid., 27.

[24] Ibid., 36.

[25] James Burk, "Responsible Obedience by Military Professionals: The Discretion to Do What Is Wrong," in *American Civil-Military Relations: The Soldier and the State in a New Era*, ed. Suzanne C. Nielsen and Don M. Snider (Baltimore: The Johns Hopkins University Press, 2009), 155.

[26] Ibid., 156–157.

[27] Ibid., 157–158.

[28] Ibid., 162–168.

[29] Ibid., 171.

[30] Jim Golby, "Beyond the Resignation Debate: A New Framework for Civil-Military Dialogue," *Strategic Studies Quarterly* 9, no. 3 (Fall 2015), 18–46.

[31] Ibid., 21.

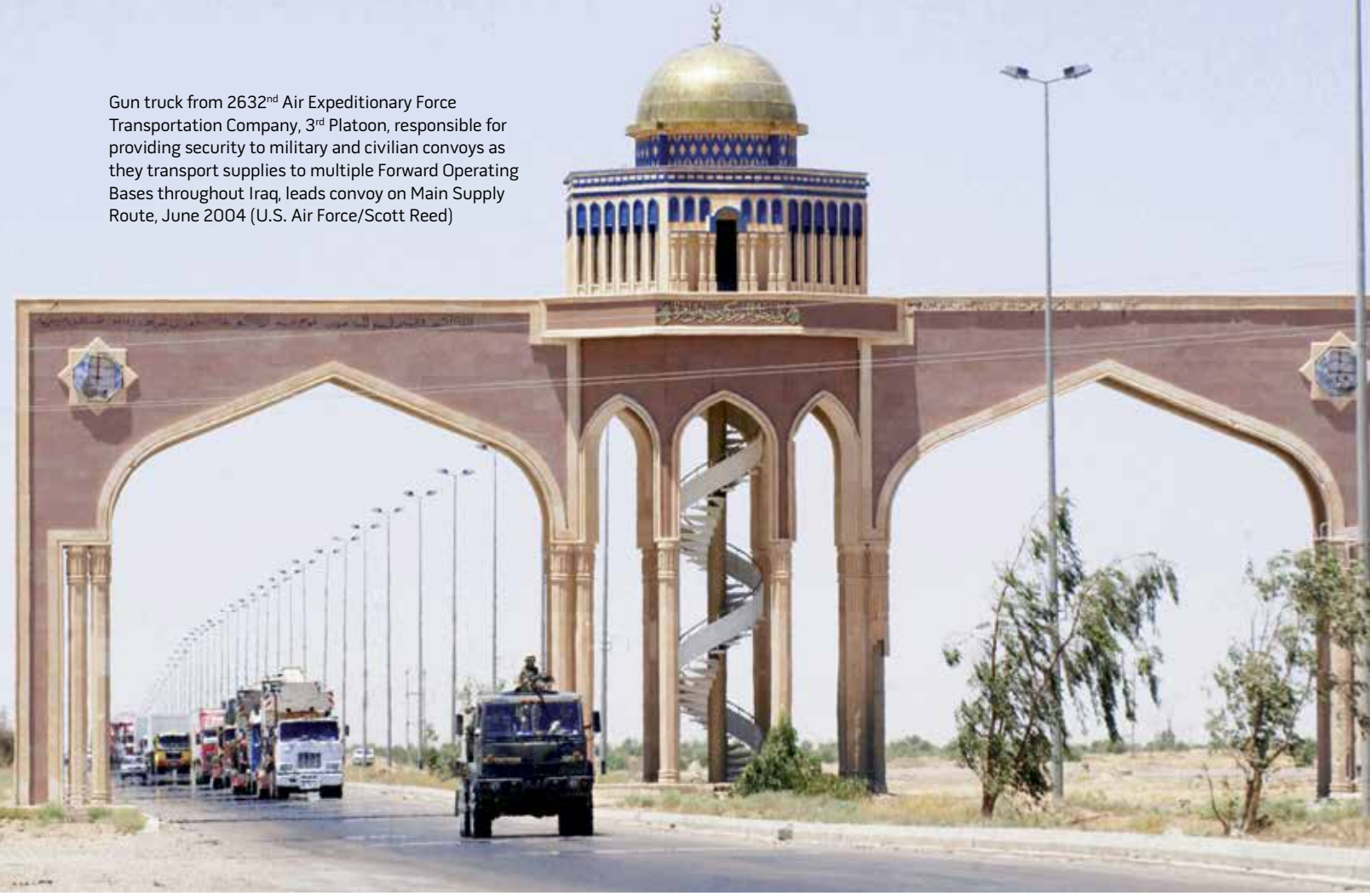
[32] Ibid., 23.

[33] Ibid., 25.

[34] Richard H. Kohn, "Building Trust: Civil-Military Behaviors for Effective National Security," in *American Civil-Military Relations*, 282.

[35] *Personal Justice Denied*, 84.

[36] Richard H. Kohn, ed., "The Early Retirement of Gen. Ronald R. Fogleman, Chief of Staff, United States Air Force," *Aerospace Power Journal* (Spring 2001), available at <www.airpower.maxwell.af.mil/airchronicles/apj/apj01/spr01/kohn.htm>.



Gun truck from 2632nd Air Expeditionary Force Transportation Company, 3rd Platoon, responsible for providing security to military and civilian convoys as they transport supplies to multiple Forward Operating Bases throughout Iraq, leads convoy on Main Supply Route, June 2004 (U.S. Air Force/Scott Reed)

Civil Order and Governance as Military Responsibilities

By David A. Mueller

In April 2003, as U.S. forces closed in on Baghdad, chaos and disorder began to break out in the city of more than six million residents. As civil order broke down, the lack of guidance and forethought that U.S. leadership had put into the responsibility of U.S. forces for maintaining civil order in their newly conquered territory became apparent. Because there was no planning or guidance on how to handle looting, commanders in Baghdad decided to focus on defeating the last remnants of the Iraqi military and did little to maintain order in the capital.[1]

Eighty-five years earlier, another Western military force had advanced on a key Middle Eastern city and found itself faced with a similar situation. General Edmund Allenby, the commander of the British Army's Egyptian Expeditionary Force, had dispatched a force, the Desert Mounted Corps under Australian Lieutenant General Harry Chauvel, to take the Ottoman city of Damascus. Allenby gave Chauvel specific orders on how the city was to be taken and administered in order to strengthen the British position for the postwar settlement. When civil disorder began to break out in Damascus, however, Chauvel prioritized maintaining civil stability above his orders from Allenby. Although his decision greatly complicated the postwar situation

Lieutenant Colonel David A. Mueller, USMC, wrote this essay while attending the Air War College. It won the Strategic Research Paper category of the 2016 Chairman of the Joint Chiefs of Staff Strategic Essay Competition.

and was a clear violation of direct orders, there is no question that he viewed maintaining civil order as an implied task of the utmost military importance, and Allenby supported his decision.[2]

The vastly different manner in which American commanders viewed their responsibility to maintain civil order in Iraq from their British and Australian counterparts in World War I speaks to the way each group viewed the roles and responsibilities of a military force. The U.S. military's willingness to cede postwar stability operations to civilian authority, even an authority within the Department of Defense (DOD), would have been foreign to Allenby and his lieutenants in 1918. This truth goes beyond the fact that travel and communication are much easier today, or even the formative experiences of Allenby and Chauvel (both veterans of the Boer War) compared to their American counterparts, and speaks to an evolution of thinking among American military professionals.[3]

Operation *Iraqi Freedom* marked the first time since World War II that the U.S. military conducted offensive operations without a partner force to handle occupation duties. Following the conclusion of hostilities in Europe in May and in Japan in August 1945, the largest stability operation ever conducted by the United States—and one of the most successful in history—was undertaken by the U.S. Army. At the peak of its authority, the U.S. Army occupied four nations and had more than 300 million people under its jurisdiction.[4] The need to prepare for military occupation was recognized by U.S. military leaders and government officials as early as 1940.[5] The resultant standards that were used to such enormous effect in Germany, Japan, Korea, and Austria would be lost on U.S. forces more than 50 years later, however. Thus, despite the fact that the uniformed military historically has been the responsible agency for civil order and postconflict governance, the lack of appreciation for this fact by modern U.S. commanders contributed to the 2003 security struggles in postwar Iraq. By comparing the U.S. invasion of Iraq with the British capture of Damascus in 1918 and the U.S. Army's occupation authority in post–World War II, we see how these longstanding historical facts were lost on U.S. forces in 2003.

The 2003 Invasion

The breakdown of order in Iraq immediately after the U.S. military defeated Iraqi forces was the result not of a single oversight or bad decision, but rather a massive gap in the planning and preparation for the U.S. offensive. *Stability operations*, known as Phase IV in the U.S. Joint Operation Planning Process, represent the transition from direct combat against enemy forces to the maintenance of civil order until "legitimate local entities are functioning."[6] Phase IV planning is doctrinally considered a responsibility of the joint combatant commander during operational planning. In 2003, this was General Tommy Franks, USA, the commander of U.S. Central Command (USCENTCOM).

This was not the first time the USCENTCOM staff had considered how to invade Iraq, a nation the United States had previously invaded in 1991 during the first Gulf War and against which it had had a policy of regime change since 1998, when then–USCENTCOM Commander General Anthony Zinni, USMC, developed Operations Plan 1003. Designed for the invasion and occupation of Iraq, it called for 380,000 U.S. troops to stabilize the nation of 24 million.[7] As preparations began for the 2003 invasion, Secretary of Defense Donald Rumsfeld rejected the large troop requirement of the 1003 plan, insisting that force levels were too high. The study conducted by the Joint Staff to prove the force levels could be lower, however, failed to take stability operations into consideration.[8] As planning continued, General Franks told subordinates in August 2002 that the postwar planning effort would be led by the Department of State. By mid-October, however, Secretary Rumsfeld had secured DOD as the lead agency. Rumsfeld then decided to divide the responsibilities in postwar Iraq between a civil administrator and military commander, each of whom would report to the USCENTCOM commander.[9]

General Franks, however, seemed to have little interest in the Phase IV plan. As Michael Gordon and Bernard Trainor write, "Franks appointed a tiny cell of planners working on ways to get humanitarian assistance to the Iraqis. But he seemed content to leave the lion's share of the Phase IV planning to others in the government."[10] The one military staff to put any effort into the Phase IV plan was Army Lieutenant General David McKiernan's Combined Forces Land Component Command (CFLCC). McKiernan, who assumed he might have to lead the postwar reconstruction, was assembling a Phase IV plan. As the plan matured, however, the lack of U.S. forces required planners to assume the availability and effectiveness of Iraqi forces to perform many of the tasks.[11]

The civil administrator who was to lead the civilian side of Rumsfeld's two-pronged approach to the occupation of Iraq was Lieutenant General Jay Garner, USA (Ret.). Garner was contacted on January 9, 2003, and agreed to a 4-month commitment. His position was ratified on January 20, 2003, with a Presidential directive.[12] The choice of Garner made sense; he had run relief operations to the Kurds in northern Iraq after the 1991 Gulf War,[13] so he had experience with humanitarian operations, he was familiar with Iraq, and, as a retired general, he would integrate well with his military counterpart. USCENTCOM, however, had been planning the invasion—and mostly ignoring Phase IV operations—for more than a year. Now, 2 months before the invasion, Garner was just putting his team together. When they arrived in Kuwait, the team was told that there was no room to quarter them on base with the CFLCC staff, so they continued their planning from the isolation of a beachfront hotel, still using Iraqis, foreign forces not yet committed, and contractors to meet the plan's force structure requirements.[14]

A gap is a weakness in a military force. Physical gaps are usually found at the boundaries between adjacent units that do not coordinate properly.[15] Franks's plan was creating a gap between Phase III (dominate–break the enemy's will to

Before making his final departure from Iraq on June 28, 2004, Ambassador L. Paul Bremer shakes hands with U.S. Servicemember while he and Iraqi Deputy Prime Minister Barham Saleh walk to Baghdad International Airport (U.S. Air Force/D. Myles Cullen)

resist) and Phase IV.[16] More importantly, Franks was the commander who should have been responsible for both phases and the transition. Instead, however, "Franks focused most strongly on [Phase III]," while Phase IV was little more than a "skeleton" until "very late."[17] In Franks's own memoir, he recounts telling the "bureaucracy beneath" Secretary Rumsfeld, "You pay attention to the day *after* and I'll pay attention to the day *of*."[18] He was essentially taking ownership of what he saw as the military responsibilities (warfighting) while pushing off to the civilians what he perceived as nonmilitary tasks (postwar governance).

Command climate is defined as "the culture of a unit. It is the way a unit 'conducts business.' The leader of the organization is solely responsible for the organization's command climate. Commanders at all levels establish this climate by what they say and what they do."[19] Franks's lack of interest in the Phase IV plan was creating a command climate that viewed stability operations as someone else's problem—not a military responsibility. Franks was not alone in creating this perception, and it was not limited to USCENTCOM.

Shortly after retiring in late 1998, General Howell Estes, USAF, gave an interview to the PBS television program *Frontline* regarding the military mission in Bosnia. Referring to the many roles the military was being asked to perform in order to stabilize Bosnia, Estes stated, "There is a civilian component that needs to do the nation-building. And what the military needs to do is go in and set the conditions in which the nation-building teams can come in and carry out their operations."[20] Estes did not clarify who the civilian component was or where it would come from, only that it was not the military's role. He claimed later that the overall view of the military regarding those additional tasks was that "this is not what the Nation's military is for; we're not trained to do this. You need to get the people who are supposed to do this to do it."[21]

While he may not have been speaking for the entire military, Estes was certainly not alone in these views, and the aversion to using U.S. forces for such tasks was routinely emphasized by Secretary Rumsfeld in the run-up to the invasion. In a speech on February 14, 2003, Rumsfeld assured listeners that the United States could conquer and leave Iraq quickly without lengthy "peacekeeping" or "nation-building" operations.[22]

The lack of planning and guidance regarding civil order came to a head as U.S. troops entered Baghdad and Iraqi civil authorities abandoned their positions. As U.S. Marines toppled the statue of Saddam Hussein in Firdos Square on April 9, 2003, looting was already beginning in the city.[23] In the days that followed, maintaining civil order was

Soldier stands guard duty near burning oil well in Rumaylah Oil Fields in Southern Iraq, April 2003 (U.S. Navy/Arlo K. Abrahamson)

dismissed as outside the responsibility of U.S. forces in Iraq. "U.S. forces have neither the troops nor the inclination to police neighborhoods or deter looters in the next few days, according to [George W.] Bush administration officials," the *Washington Post* reported in an April 10, 2003, article titled "U.S. Military Spurns Postwar Police Role."[24] Two days later, the newspaper updated the status of the direction: "Troops are to intervene directly only if Iraqis appear to be stealing weapons from any of the many arsenals found throughout the city."[25] While the *Los Angeles Times* reported that some troops had been given orders to stop the looting as early as April 11, it pointed out that the U.S. military's "hands-off policy had encouraged the looters to commit more and more thefts."[26]

From Kuwait, Jay Garner and his team could only watch the looting and wonder what would be left by the time they arrived in Baghdad. They had prepared a prioritized list of buildings that needed to be safeguarded for postwar stability, placing the national bank and the Baghdad museum as the highest priorities, while the oil ministry was the lowest. In the immediate turmoil after the invasion, the Republican Palace and oil ministry were well protected,[27] while the looting of the Baghdad museum in view of U.S. forces became the symbol of postwar chaos and U.S. indifference to civil order.[28] The disconnect between the people responsible for the postwar plan and the military forces required to implement that plan was astounding. While U.S. forces did begin dedicated efforts to restore civil order, they did not have the forces to do the job, and the Iraqis were not organized quickly enough to provide the forces necessary. As late as May 27, the *New York Times* was still reporting the looting that was occurring throughout Iraq.[29]

The failure to prioritize civil order in the immediate aftermath of the invasion was one symptom of the dysfunctional approach the United States took to the postwar stability, but it was hardly the last. Garner, understaffed and never sufficiently part of the planning effort, arrived in Baghdad on April 21, 2003.[30] The following day, Garner was informed by Secretary Rumsfeld that he would be replaced and his entire organization dissolved in order to make room for the Coalition Provisional Authority (CPA) under the leadership of L. Paul Bremer.[31] Bremer "possessed full executive, legislative, and judicial authority" in Iraq, but while he reported directly to Secretary Rumsfeld, his chain of command as a Presidential envoy was unclear.[32] What was clear, however, is that Bremer reported to no one in Iraq and no one wearing a uniform. However, Major General Ricardo Sanchez, USA, who was now the senior military commander in Iraq, did not report to Bremer either. While he had been directed to support Bremer and the CPA by Secretary Rumsfeld, his chain of command still ran

through CFLCC and USCENTCOM and then to the Secretary.[33] In short, there was no single person in Iraq in charge of the entire U.S. effort, much less the coalition and Iraqi efforts.

As if to emphasize how little anyone cared about the postwar effort, the immediate aftermath of the invasion was defined by a rush of senior leadership to leave theater. By the end of the summer, McKiernan and Franks had left Iraq, Garner was replaced by Bremer, and Lieutenant General William S. Wallace, USA, had turned V Corps over to newly promoted Lieutenant General Sanchez.[34] This left the newest corps commander in the Army and a civilian administrator who learned he would be going to Iraq only in April to run the occupation, and neither of them was in charge. The lack of clarity, focus, and a coherent plan for postwar Iraq, as well as the many failures of the CPA, are well documented by authors such as Rajiv Chandrasekaran, Michael Gordon, and Bernard Trainor.[35] The underlying mistake, however, was a failure to recognize the military necessity of civil order and postwar governance. The U.S. military, which had not been responsible for an occupation in more than 50 years, missed the fact that both historically are military tasks.

Taking Damascus: The Army of Empire Prioritizes Civil Order

In late September 1918, British General Edmund Allenby was preparing to continue his Middle East offensive against the Ottoman Turks. Allenby had already conquered Sinai and Jerusalem and was advancing in Transjordan, but his next conquest had the potential to create a political firestorm. Damascus was the first city in Allenby's path earmarked to fall under French control by the terms of the 1916 Sykes-Picot agreement. A secret plan through which the British and French committed to a postwar partition of the Middle East between them, Sykes-Picot was to be put into effect in any area conquered by either Ally. Thus far, Allenby and the British government had total control of the decisions concerning their conquered territories. The French, however, would demand postwar control of any territories Allenby conquered in Syria and had representatives with Allenby's army to ensure their interests were safeguarded.[36]

The British hoped to avoid implementation of Sykes-Picot in Damascus because they preferred to grant its postwar governance to Prince Feisal, who, accompanied by the most famous liaison officer in history, T.E. Lawrence, was leading an Arab army against the Ottoman Turks in the name of Arab nationalism. After a volley of telegrams and face-to-face diplomacy between London, Paris, and the Middle East, Allenby gave his subordinates specific orders regarding the movement on Damascus, which was designed to avoid implementation of the Sykes-Picot agreement. He dispatched General Harry Chauvel, the leader of the Australia New Zealand Army Corps (ANZAC) cavalry and a fellow Boer War veteran, to lead the politically fraught mission on Damascus.[37]

Two key provisions in Allenby's orders were designed to avoid implementation of the Sykes-Picot agreement. First, Chauvel was to allow Feisal's Arab army to liberate the city. Allenby's order, expressing concerns familiar today, directed that none of Chauvel's troops should enter Damascus. According to David Fromkin, this was "presumably to forestall resistance by a possibly hostile Moslem [*sic*] metropolis to a Christian occupation."[38] Furthermore, if Feisal's army, and not the British force, were to capture Damascus, Feisal might not be subject to an agreement to which he played no part. In fact, Allenby's chief political officer had already written Sykes, stating, "If Feisal makes good in a military sense he may well carry Syria with him." Otherwise, he would have no influence.[39]

The second key provision in Allenby's orders was to retain the Ottoman civil government in Damascus. Chauvel recognized that he did not have the forces to place a military governor in charge of the city of 300,000, and the foreign office believed Sykes-Picot would not go into effect until the British exerted control over the civil authority.[40] It is not clear what Chauvel was supposed to do if Feisal insisted on his own Arab government once he took the city, although Allenby instructed Chauvel to "deal with him through Lawrence" if there was any trouble.[41]

When Chauvel and the ANZACs arrived at the outskirts of Damascus on September 29, 1918, Feisal's Arab army was still at least 3 days away. With orders to avoid the city, the ANZACs continued to pursue the fleeing Turkish army. The Ottoman government within Damascus, however, decided on September 30 to abandon the city and join their retreating army, which caused civil disorder to break out.[42] Like his American counterparts in 2003, Chauvel was unable to retain the civil apparatus he had planned to use to maintain order in the city. Furthermore, in pursuit of the Turks, one of Chauvel's units had violated orders and ridden through Damascus on October 1, where local Syrian Arab notables gave them an official welcome. Meanwhile, Chauvel, trying to solve his civil governance problem, worked with Lawrence (who had arrived in Damascus ahead of Feisal), and appointed a pro-Feisal Arab as the new governor.[43]

On October 2, with Feisal's forces 1 day away from Damascus, civil disorder was still rampant and possibly exacerbated by the appointment of the governor. Chauvel decided to march his entire force through Damascus to quell the unrest. According to Fromkin, "This was exactly what Allenby and Clayton [the political officer] had hoped to avoid: the population aroused [and] Christian troops defiling through the streets of a great Moslem [*sic*] city to restore order."[44] It was also the final action in a series of events that completely undermined Allenby's intent to avoid the implementation of Sykes-Picot and the subsequent political complications. Most notably, however, Allenby, who arrived the same day as Feisal, understood the situation Chauvel had been placed in and did not blame him.[45]

In comparing Chauvel's decisions to those of American commanders in 2003, the timeline is telling. Three days is the longest Chauvel would have

needed to tolerate civil unrest to comply with Allenby's orders, but he deemed the delay unacceptable. In the case of marching his troops through the town, it would have been a 1-day delay to wait for Feisal's Arabs to do the same thing. One day, however, was too long for Chauvel. By contrast, 3 days into the Baghdad unrest, American commanders still were not certain that providing civil order was their responsibility, even if they had the forces to do so. Allenby's support for Chauvel in the aftermath of Damascus, however, is evidence that the distinguished British general understood that maintaining civil order was an implied task when he gave the order to conquer the city.

World War II: The U.S. Army and Military Government

The U.S. Army ran one of the most successful postwar stabilization efforts in history following World War II. The Army established military governments in Japan, Korea, Austria, and Germany, and Army generals were appointed to command them.[46] Command authority was at the heart of what made the military governments so effective. Field Manual (FM) 27-5, *Military Government and Civil Affairs*, first published in 1940, established military government as a "command responsibility" and gave the commanding general "full legislative, executive, and legal authority" over his assigned territory.[47] These are the same authorities given to L. Paul Bremer in 2003, except that unlike the military commanders, Bremer had no authority over the forces he relied on for his security. While control of postwar policy was debated throughout World War II, the Army was the most prepared agency to institute postwar governance and had the doctrine to support its position.

It is important to note that, leading up to World War II, the U.S. Army's most recent occupation experience, and the one that drove most research and strategic thinking at the Army War College during the interwar period, was the Allied occupation of Germany's Rhineland following World War I. The most influential study of the period was the report written by Colonel Irvin L. Hunt, who "spent the interwar period seeking to ensure that the army was prepared for its next occupation."[48] Hunt's report identified two major lessons from the Rhineland occupation. First, the military civil administrator, who reported directly to the overall theater commander, was separate and distinct from the tactical commander, thus dividing the legislative and executive authorities between two commanders. The report stated that all authorities should be consolidated under one commander. Second, Hunt criticized the use of the same military units for tactical and governance duty simultaneously; separate units would have been preferable.[49]

The Rhineland experience and the Hunt report inspired both study and debate regarding military governance throughout the interwar period, and led to updates to existing U.S. war plans.[50] With the outbreak of war in Europe in 1939, it was only natural for the U.S. Army to update its military governance doctrine, and FM 27-5 placed all authority with a single unified commander—the military governor—and emphasized "military necessity" as the driving principle in military governance.[51] While the Army's embrace of military governance may appear strange in 2016, the U.S. Army of 1940 could refer to a long list of precedents in which U.S. occupation required military governments: the Reconstruction following the end of the Civil War in 1865, the Philippines (1898–1946), Cuba (1898–1902), Puerto Rico (1898), Veracruz, Mexico (1914), the Rhineland (1918–1923), and numerous Marine Corps interventions in the Caribbean. Together, these occupations represent more than 120 years of consistent, though periodic, need for military governments.[52] By contrast, the U.S. invasion of Iraq in 2003 occurred more than half a century after the military government in Japan ended in 1952.[53]

The idea of placing conquered and liberated nations under U.S. Army rule was not without opponents in the early 1940s. Army Chief of Staff General George C. Marshall had misgivings about the Service taking on such a monumental governance task because of how it would be perceived. He "worried that presiding over the governance of people throughout the world could send the wrong signal to the American People."[54] Most of President Franklin D. Roosevelt's Cabinet members had strong reservations about granting the Army such a large role in postwar policy, and even Roosevelt himself was lukewarm at best regarding military governance in Europe.[55] In the end, however, no other U.S. Government organization had the resources, required structure, doctrine, and precedent to accomplish such a monumental task and to incorporate civilians into the military governments where necessary.[56] Military governance was the logical, if imperfect, choice.

The success of the World War II occupations is undeniable and was often cited by the Bush administration in 2003, but the model of military government was always overlooked. Even without military government, if the principles of a unified command and an emphasis on military necessity had been given prominence, the U.S. occupation of Iraq may have looked more like that of World War II. In the end, the results of the U.S. post–World War II occupation in Europe demonstrate that the choice of military government in postwar situations may be much like Winston Churchill's opinion of democracy: it is "the worst form of government, except for all the others."[57]

Are We Learning the Wrong Lessons?

The lessons drawn from any war are always critical to the way future operations will be conducted. Lieutenant General Daniel Bolger, USA (Ret.), identifies several key lessons from the failed U.S. occupation of Iraq in his 2015 book *Why We Lost: A General's Inside Account of the Iraq and Afghanistan Wars.* Bolger argues that "short, decisive, conventional conflicts waged for limited ends" emphasize the advantages of America's swift and agile military.[58] He states that if the U.S. effort in Iraq had ended after the initial campaign in 2003, "admiring war colleges would have studied the brilliant

opening rounds as models of lightning war."[59] Bolger does not speculate on what postwar Iraq would have looked like if U.S. forces had departed in May 2003, but he implies that it was neither America's problem nor the U.S. military's responsibility.[60]

Bolger criticizes the doctrine contained in FM 3-24, *Counterinsurgency*, as "the shiny objects of counterinsurgency theory."[61] He degrades counterinsurgency doctrine as a distraction from a focus on "core strength, rapid, decisive conventional operations."[62] However, Bolger ignores the fact that the insurgency in Iraq was not an inevitable by-product of the invasion, but rather was the result of U.S. mismanagement of the postwar situation. Specifically, it resulted from the failure to treat civil order and competent postwar governance as military responsibilities. FM 3-24 was a critical milestone in correcting not only doctrine, but also the culture within the military. Following its publication in 2006, the Army revised FM 3-0, *Operations*, with a renewed emphasis on stability operations, civil order, and support to civil government.[63] Both documents reflect the U.S. military's evolved understanding of civil order and good governance as a distinct military priority in ways that would have been familiar to the U.S. Army of World War II or to Chauvel's ANZACs.

The newfound emphasis on civil order and stability operations found in FM 3-24 and FM 3-0 is a strong and important step toward ensuring that the military importance of civil order is not lost on future generations. However, while those manuals emphasize support for existing civil governments and the importance of good governance, only FM 3-24 makes mention of military government, and then only once.[64] Given the climate in which the authors of FM 3-24 were writing, I applaud them for even mentioning military government. Was anyone ready, however, to advocate for it or to implement it? The answer is no. The 2014 version of the document eliminated the reference to military government.[65] Both versions of FM 3-24 revisit many of the themes found in the Marine Corps' *Small Wars Manual* of 1940, but that publication has entire chapters on military government and how to conduct elections—essentially nation-building from the ground up.[66] To truly close the doctrinal loop, either the next update of FM 3-24 should include sections on military government and elections or a modern version of FM 27-5, *Military Government*, should be created.

Conclusion

There is a distinct difference between the responsibility to maintain civil order in the transition from combat operations to postwar governance and the running of the occupation government itself. It is logically consistent to believe that the military should do all it can to maintain civil order through combat operations and that the occupation government should be run by some other entity, whether the State Department or another arm of government. What is clear, however, is that maintaining civil order through the transition is critical, and the military must be prepared to provide postwar security forces. Therefore, if we are to keep unity of command and view the running of an interim stability government as a command function, a military government under a uniformed commander is the most logical option. If, however, another entity is going to run stabilization operations, the military commander should involve that entity in planning for the transition and ensure that the responsibility for civil order, as well as the command relationship, is codified in a robust Phase IV plan.

There will always be military professionals who see their role exclusively as fighting the enemy, destroying their equipment, and defeating their armies, believing that all civil order and policing duties should be left to someone "trained to do it." The problem, however, is that that group of "trained to do it" individuals does not exist in a deployable form in the United States and never has. The State Department's Civilian Response Corps, established in 2004, was to have been that capability, but it never reached its planned size and currently exists in a reduced capacity with questionable capabilities.[67] As such, the military remains the only large organization the Nation can turn to and state, "You're leaving next week to go halfway around the world for the next year"—and not have half the personnel resign.

We have seen from the above examples that civil order and governance historically are the responsibility of the military that conquers a territory. Nevertheless, today, instead of a Colonel Hunt attempting to prepare the United States for its next occupation, military leaders such as Daniel Bolger advocate against future U.S. postwar occupation and deem preparation for such a likelihood unnecessary. We do not always get to choose the war we want to fight, however; the enemy also gets a vote. Occupation duties are the inevitable result of most offensive operations. We need to recognize that a military unprepared for occupation is likewise unprepared for offensive operations. The decision to conquer comes with the responsibility to govern, and it is always easier to destroy than to create. Even if we do not resource units for civil affairs and occupation duties, we need mature doctrine and a military culture that refuses to rely on General Estes's mythical "civilian component that needs to do the nation-building" as the foundation for Phase IV plans.[68]

Finally, a closing point regarding the adamant public debate about the threat from the Islamic State of Iraq and the Levant (ISIL) and the increased calls for its destruction: While the threat is undeniable and the calls for ISIL to be annihilated have become increasingly compelling, those who advocate that end must also provide the answer to postconflict governance in the areas the group controls. Furthermore, any military commander executing a plan aimed at destroying ISIL should see the maintenance of civil order and postconflict governance as a military responsibility. A mature plan should be required before what little order still exists in the region is destroyed by U.S. action. **JFQ**

Notes

[1] Michael R. Gordon and Bernard E. Trainor, *Cobra II: The Inside Story of the Invasion and Occupation of Iraq* (New York: Pantheon Books, 2006), 428.

[2] David Fromkin, *A Peace to End All Peace: The Fall of the Ottoman Empire and the Creation of the Modern Middle East* (New York: Henry Holt & Co., 1989), 334–338.

[3] "Britain's Greatest General," National Army Museum Online Exhibition, available at <www.*nam.ac.uk/exhibitions/online-exhibitions/britains-greatest-general/edmund-allenby*>; *A. J. Hill, "Chauvel, Sir Henry George (Harry) (1865–1945)," Australian Dictionary of Biography, Australian National University, available at <http://adb.anu.edu.au/biography/chauvel-sir-henry-george-harry-5569/text9497*>.

[4] Walter M. Hudson, *Army Diplomacy: American Military Occupation and Foreign Policy After World War II* (Lexington: University Press of Kentucky, 2015), 1.

[5] Ibid., 63.

[6] Joint Publication (JP) 5-0, *Joint Operational Planning* (Washington, DC: The Joint Staff, August 11, 2011), xxiv.

[7] Gordon and Trainor, 53.

[8] Ibid.

[9] Ibid., 138, 141.

[10] Ibid., 139.

[11] Ibid., 138, 148.

[12] Ibid., 149–150.

[13] Ibid., 149.

[14] Hotel reference in Rajiv Chandrasekaran, *Imperial Life in the Emerald City: Inside Iraq's Green Zone* (New York: Vintage Books, 2006), 38. Reference for force structure assumptions in Gordon and Trainor, 152–160.

[15] Marine Corps Doctrinal Publication 1, *Warfighting* (New York: Cosimo Books, 2007), 92.

[16] Joint definitions found in JP 5-0, xxiv.

[17] Daniel Bolger, *Why We Lost: A General's Inside Account of the Iraq and Afghanistan Wars* (New York: Houghton Mifflin Harcourt Publishing Co., 2014), 117–118.

[18] Tommy Franks, *American Soldier* (New York: Harper Collins, 2004), 441. Emphasis in original. Quote originally found in Hudson, 270.

[19] Joseph Doty and Joe Gelineau, "Command Climate," *Army Magazine*, July 2008, 22, 24, available at <www.ausa.org/publications/armymagazine/archive/2008/7/documents/fc_doty_0708.pdf>.

[20] Howell Estes, quoted in "Give War a Chance," *Frontline*, May 1999, available at <www.pbs.org/wgbh/pages/frontline/shows/military/etc/estes.html>.

[21] Ibid.

[22] Gordon and Trainor, 152.

[23] Chandrasekaran, 46; Anthony Shadid, "Hussein's Baghdad Falls," *Washington Post*, April 10, 2003.

[24] Peter Slevin and Bradley Graham, "U.S. Military Spurns Postwar Police Role," *Washington Post*, April 10, 2003.

[25] William Branigin and Rick Atkinson, "Anything, and Everything Goes," *Washington Post*, April 12, 2003.

[26] John Daniszewski and Geoffrey Mohan, "Looters Bring Baghdad New Havoc," *Los Angeles Times*, April 11, 2003.

[27] Chandrasekaran, 45–46.

[28] Frank Rich, "Operation Iraqi Looting," *New York Times*, April 27, 2003.

[29] Edmund Andrews, "Iraqi Officials Say Looting of Ancient Sites Continues Despite Pleas to U.S. Troops to Help," *New York Times*, May 27, 2003.

[30] Monte Reel, "Garner Arrives in Iraq to Begin Reconstruction," *Washington Post*, April 22, 2003.

[31] James Dobbins et al., *Occupying Iraq: A History of the Coalition Provisional Authority* (Santa Monica, CA: RAND, 2009) xv, available at <www.rand.org/content/dam/rand/pubs/monographs/2009/RAND_MG847.pdf>.

[32] Ibid., xiii, xvii.

[33] Ibid.

[34] Gordon and Trainor, 488.

[35] Chandrasekaran; Gordon and Trainor, *Cobra II*. See also Michael R. Gordon and Bernard E. Trainor, *The Endgame: The Inside Story of the Struggle for Iraq, from George W. Bush to Barack Obama* (New York: Random House, 2012).

[36] Fromkin, 305–335.

[37] Ibid., 332–335.

[38] Ibid., 336.

[39] Ibid., 334.

[40] Ibid., 333–335.

[41] Allenby, as quoted in Fromkin, 335.

[42] Fromkin, 336.

[43] Ibid., 337–338.

[44] Ibid., 338.

[45] Ibid.

[46] Hudson, 1.

[47] Hudson, 64–65. Quotations from FM 27-5 (1940) as quoted in Hudson.

[48] Hudson, 37–43 (quotation from Hunt on 42).

[49] Hudson, 40–41.

[50] Ibid., 48–49.

[51] Ibid., 64–65.

[52] Ibid., 35, 39, 44.

[53] "Japan's About Face: Japanese Military History," available at <www.pbs.org/wnet/wideangle/episodes/japans-about-face/timeline-japanese-military-history/?p=1168>.

[54] Hudson, 2.

[55] Ibid., 94–119.

[56] Ibid., 147–156.

[57] Winston Churchill, *Goodreads* Web site, available at <www.goodreads.com/quotes/267224-democracy-is-the-worst-form-of-government-except-for-all>.

[58] Bolger, 429.

[59] Ibid.

[60] Ibid., 429–430.

[61] Ibid., 429.

[62] Ibid., 433.

[63] Field Manual (FM) 3-0, *Operations* (Washington, DC: Headquarters Department of the Army, February 2008), available at <http://downloads.army.mil/fm3-0/FM3-0.pdf>.

[64] Ibid. See also FM 3-24, *Counterinsurgency* (Washington, DC: Headquarters Department of the Army, December 2006), 5–15, available at <http://usacac.army.mil/cac2/Repository/Materials/COIN-FM3-24.pdf>.

[65] FM 3-24, *Insurgencies and Countering Insurgencies* (Washington, DC: Headquarters Department of the Army, May 2014), available at <http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/fm3_24.pdf>.

[66] U.S. Marine Corps, *Small Wars Manual* (Washington, DC: U.S. Government Printing Office, 1940). Reprinted by order NAVMC 2890, April 1, 1987.

[67] Nina Serafino, *In Brief: State Department Bureau of Conflict and Stabilization Operations*, R42775 (Washington, DC: Congressional Research Service, October 10, 2012), available at <www.fas.org/sgp/crs/row/R42775.pdf>.

[68] Estes.

Palestinian Authority President Mahmud Abbas greets U.S. Secretary of State John Kerry as he arrives for meeting in Amman, Jordan, June 2013 (State Department)

The Palestinian Authority Security Force

Future Prospects

By Jeffrey Dean McCoy

Should the United States continue to support the Palestinian Authority Security Force (PASF)? To the Western observer, the current violence in Jerusalem is but another iteration of the intractable conflict between the Israelis and the Palestinians. To the average American, the term *Palestinian* is often synonymous with a masked Arab hurling a rock at the ubiquitous Israel Defense Forces (IDF). The reality on the ground is, of course, far more complex. Unknown to most is the fact that during the 2014 Israel-Gaza conflict, the West Bank was quiet and stable. In fact, since 2009 the PASF has received silent, grudging approval of its performance in the West Bank by Western leadership.[1] The success of the PASF, like that of many nascent security forces supported by the United States, can be short-lived, especially in light of recent attacks by

Lieutenant Colonel Jeffrey Dean McCoy, USA, wrote this article while a student at the U.S. Army War College. It won the Strategy Article category of the 2016 Chairman of the Joint Chiefs of Staff Strategic Essay Competition.

both Palestinians and Israelis. However, PASF performance has shown that it is a capable security force that is worthy of Israeli partnership, Palestinian trust, and further U.S. support. To substantiate this position, the development of the PASF will be briefly examined and set against its unique organization. Both its history and its distinct structure allow it to maintain order within the West Bank. The PASF will face challenges to further development if any success in a two-state solution is reached, but it remains the best hope for legitimate security for the Palestinian people.

Development

The growth of the Palestinian Authority Security Force is not well understood and is often wrapped in misconceptions about regional actors. Development of the PASF began after the September 1993 signing of the Oslo Accords, which followed the end of the First Intifada.[2] Substantial donor support was used to transform the bodyguards and security personnel of the Palestine Liberation Organization (PLO) and its leader, Yasser Arafat, into an initial security force that swelled under Arafat's leadership.[3] His involvement in the security force, however, caused Western leaders to question the PLO's dedication to achieving peace with Israel. The majority of the PASF was incapacitated following the outbreak of the Second Intifada in 2000, which resulted in decreased donor aid and the destruction of much of its infrastructure.[4] The death of Arafat in November 2004 and the ascension of Mahmud Abbas as his replacement established the conditions for rebuilding a more enduring Palestinian security organization. Supported by the "Quartet" powers (the United States, European Union [EU], United Nations, and Russia), Secretary of State Condoleezza Rice in 2005 announced the creation of the office of the United States Security Coordinator (USSC) for Israel and the Palestinian Authority, which would oversee the rebuilding of the PASF into a multi-branch security force as a part of the so-called Roadmap to Peace to end the Israeli-Palestinian conflict.[5] The difficulty of implementation and complexity of the environment increased after Hamas won the Gaza Strip election in January 2006, and its subsequent forceful takeover from the Fatah-led Palestinian Authority in 2007. This development would effectively split the Palestinians into the Fatah-ruled West Bank and Hamas-led Gaza Strip.[6]

Organization

The PASF is organized into four main services, each with a separate and distinct mission, with other supporting elements of various sizes and capabilities, including an extensive intelligence apparatus. Integral to this architecture is the founding principle that the PASF was created with full transparency to Israel and coordinated by, with, and through the USSC.

The four basic services are the Presidential Guard (PG), responsible for the security of the Palestinian president; National Security Force (NSF), which provides area security and support to the Palestinian Civil Police; Palestinian Civil Police (PCP); and Civil Defense (CD) directorate, which provides basic firefighting and emergency response throughout the West Bank.[7]

The PG was the first service to be trained extensively by the USSC and is seen as the most skilled and most loyal element of the PASF. The PG highlighted its capabilities during the May 2014 visit of Pope Francis to Jerusalem and Bethlehem, providing close-in, vehicle, and route protection. The NSF is broadly organized into nine numbered special battalions that allow for a battalion in each of the West Bank governorates, as well as a battalion to deploy as necessary for emergencies or coverage during training. (Force coverage excludes East Jerusalem, with smaller, company-sized elements in the less-populated governorates, such as Tubas in the northern part of the West Bank.) The NSF provides direct support to its PCP counterparts, who are conventionally deployed throughout the West Bank in various police stations and centers in generally company-size units. The NSF resembles a national guard force with no arrest authority. It can react quickly to control riots and establish checkpoints in support of PCP operations or response to emergencies. The PCP are trained in a Western European police style of law enforcement and perform much like an average police force. Although they have made strides in their professionalism and training as of late, they continue to be woefully underresourced in radios, vehicles, and other basic equipment items when compared with their PG and NSF counterparts. As with many security forces, PASF interoperability is heavily reliant on the personal relationships of the various commanders.

Opportunities and Challenges

The PASF has attained a level of professionalism and ability sufficient to maintain the security environment in the West Bank. This statement could be viewed as a mediocre assessment of its abilities, but it is in fact a huge accomplishment given the challenging environment in which it operates. The PASF is placed between an aggressive IDF and a continuously angry Palestinian populace and must make both sides happy. Of all the security forces trained by the United States, the PASF is the most cosmopolitan in experience, having been trained in a variety of locales. Its members operate with the most to prove. Although basic coordination takes place with the IDF, joint patrolling has been discontinued since the Second Intifada.[8] In keeping the West Bank at a low boil, the PASF is often vilified by fellow Palestinians as "Israeli sub-contractors for security."[9] In fact, most violence occurs at Palestinian and Israeli seam areas such as settlements, where the IDF maintains responsibility. Frustratingly, these attacks often support the narrative for unilateral Israeli action in the West Bank. Although unsophisticated by modern security or police standards, the PASF operates in and among the Palestinian people and is a significant line of defense against extremism and terrorist threats to the region. PASF training continues to evolve, with an assessment that its members are ready

to move beyond the basic skills and training provided in the past to more specialized and joint training that allows for significant skill improvement in lower level PASF leaders and interservice cooperation.[10] In addition, a robust training program is gaining traction with support from the Italian Carabinieri, which provides the "best fit" for the gendarmerie police and security skills that support the PASF situation and ability.[11]

There has been a concerted effort by the USSC to improve both PASF interservice cooperation and the professionalism of its force, but its leadership is resistant; they falsely perceive that the degradation in the standing of the individual services would impact the sharing of donor funding.[12] With an extremely top-heavy rank structure, the PASF must make strides in the institutional training of the junior enlisted members and focus on a multi-service officer training program. This is hard to initiate, as there currently is no Palestinian minister of security or commander of the PASF. This vacancy gives the PG and NSF commanders nearly unfettered communication directly to President Abbas. Few in the PASF leadership, however, would be willing to support the surrender of access and influence to the Palestinian Authority leadership. Lastly, if a two-state solution is to be achieved, the IDF and police must openly improve their cooperation with their PASF counterparts and curb their unilateral activities within the West Bank areas.

The PASF deserves a future. It is a proven and capable security force that succeeds in spite of its extraordinarily challenging mission. With improved cooperation with the IDF and continued support from the USSC, as well as training that continues to address leader, joint, and institutional capacity, the PASF will provide the security environment that is necessary to enable the breathing room for a legitimate peace process in Israel and the West Bank. Given the volatile political and social environment, Israel should embrace the PASF as a legitimate partner for peace, and the West should continue to support the ongoing professionalization of this key contributor to Arab-Israeli peace. **JFQ**

Notes

[1] Alaa Tartir, "The Evolution and Reform of Palestinian Security Forces 1993–2013," *Stability: International Journal of Security and Development* 4, no. 1 (2015), 1–20.

[2] Brynjar Lia, *Building Arafat's Police: The Politics of International Police Assistance in the Palestinian Territories After the Oslo Agreement* (Reading, United Kingdom: Ithaca Press, 2007), 25.

[3] Roland Friedrich and Arnold Luethold, eds., *Entry-Points to Palestinian Security Sector Reform* (Geneva: Geneva Centre for the Democratic Control of Armed Forces, 2007), 20.

[4] Charles D. Smith, *Palestine and the Arab-Israeli Conflict*, 7th ed. (Boston: Bedford/St. Martin's, 2010), 492–494.

[5] Jim Zanotti, *U.S. Security Assistance to the Palestinian Authority*, R40664 (Washington, DC: Congressional Research Service, January 8, 2010), 1.

[6] Smith, 511.

[7] Ibid.

[8] Terry Wolff, "District Coordination Office and Liaison Workshop," briefing notes, NATO School, November 23, 2014.

[9] Tartir, 12.

[10] John Kenkel, "USSC Training, Education and Leader Development 101 Brief," USSC briefing slides, August 19, 2015.

[11] Ibid.

[12] Ibid.

National War College
(NDU Special Collections)

The National War College

Celebrating 70 Years of Developing Strategic Practitioners

By Darren Hartford and David A. Tretler

I came here to study war, and while I learned about war, I learned even more about the importance of finding peace.

—General Colin Powell, USA (Ret.)
National War College, Class of 1976

At the end of September 2016, the National Defense University (NDU) and National War College (NWC) celebrated the 40th anniversary of the University and the 70th anniversary of the War College by dedicating the West Wing of Roosevelt Hall on Fort Lesley J. McNair to General Colin Powell, USA (Ret.).[1] The epigraph above is inscribed over the entrance of the Powell Wing and expresses General Powell's thinking on his War College experience. Perhaps unbeknownst to General Powell, his words echo a statement by Lieutenant General Leonard T. Gerow, USA, president of the 1946 board that recommended the formation of the

Brigadier General Darren Hartford, USAF, is the 29th Commandant of the National War College at the National Defense University. Dr. David A. Tretler is Dean of Faculty at the National War College.

National War College: "The College is concerned with grand strategy and the utilization of the national resources necessary to implement that strategy. . . . Its graduates will exercise a great influence on the formulation of national and foreign policy in both peace and war."[2] The charge implicit in General Gerow's conception of the college, and in General Powell's later experience there, is that despite its "War College" moniker, the school's course of study is more than just a look at war; it encapsulates whole-of-government solutions to the entire spectrum of national security issues. That charge continues to inform both the college's sense of itself and the guidance provided to it by the Chairman of the Joint Chiefs of Staff (CJCS).

Since 1996, the Chairman has provided that guidance via CJCS Instruction 1800.01, *Officer Professional Military Education Policy* (OPMEP), the latest edition of which is dated May 29, 2015.[3] As the name implies, the document's purpose is to "distribute the policies, procedures, objectives and responsibilities for officer professional military education and joint professional military education."[4] While the document stipulates several educational standards applicable to all professional military education (PME) schools, it offers a caveat that there will be differences in application "since no particular organizational pattern or application strategy applies in all settings."[5] Likewise, to address the distinct nature of each senior-level college, the OPMEP dictates that "PME institutions will base their curriculums on their parent Service's needs or, in the case of the NDU colleges, on their CJCS-assigned missions."[6]

Resident senior-level PME only lasts 10 months. Each senior-level PME institution has to balance the breadth of education that a senior official needs in order to provide effective strategic leadership with the need for depth in essential areas in order to generate critical expertise. The OPMEP addresses this tension by tasking the various senior-level PME schools with different missions and focus areas. The end result is a senior officer corps that is a mosaic of groups of senior leaders, each of which has special expertise in a particular dimension of strategy—from operational strategies and campaign plans to Service strategies to national military strategies to national security strategies. One can see the variety of skills that the Joint Chiefs and other government stakeholders desire in senior officials in the focus areas the OPMEP lays out for the various senior-level schools. For example, the OPMEP stipulates that the focus for the Service war colleges is to address "theater- and national-level strategies and processes. Curricula focus on how the combatant commanders, Joint Staff, and Department of Defense use the instruments of national power to develop and carry out national military strategy, develop joint operational expertise and perspectives, and hone joint leadership and warfighting skills."[7]

For the Joint and Combined Warfighting School at the Joint Forces Staff College (JFSC), its focus is to "further develop joint attitudes and perspectives, joint operational expertise, and hone joint leader potential and warfighting skills."[8] The Joint Advanced Warfighting School at JFSC focuses on the military art and science of planning, preparing, and executing campaign plans for joint, interagency, international, and multinational participants across the full range of military operations. The Dwight D. Eisenhower School for National Security and Resource Strategy's distinct focus is "on developing the national security strategy and in evaluating, marshalling, and managing resources in the execution of the strategy,"[9] while the College of International Security Affairs "provides a senior-level perspective on which to base strategic response to terrorism, irregular warfare, and other contemporary security challenges."[10]

Within this mosaic of skill sets, the OPMEP charges the War College to focus "on national security strategy—the art and science of developing, applying and coordinating the instruments of national power to achieve objectives contributing to national security."[11] This focus on national security drives the mission the OPMEP assigns to the college: "to educate future leaders of the Armed Forces, Department of State, and other civilian agencies for high-level policy, command, and staff responsibilities by conducting a senior-level course of study in national security strategy."[12] General Powell, as CJCS, first assigned this mission to the War College in his 1990 *Military Education Policy Document*, the predecessor of the OPMEP.[13] Subsequent Chairmen have reaffirmed this mission six times. This is the fourth mission statement the college has had, but all have had the same essential thrust: producing senior military and civilian leaders with special expertise in national security strategy.

Program Aspects

In shaping the NWC program, the college leadership has focused on what it has seen as the four crucial aspects of the mission statement. First is the charge to conduct a senior-level course of study in national security strategy. This is the distinct raison d'être of the college. NWC is singularly—and solely—tasked with focusing on national security strategy. Other PME schools include national security strategy in their curricula as part of the foundation or context for their own distinct field of study, but no other school spends its entire 10-month program focused solely on national security strategy. NWC understands its purpose to be to create a cadre of officers with special expertise in national security strategy that, when blended with cadres of officers with special expertise in other areas of national security affairs, creates a synergy far more powerful than could be achieved by any uniform, standardized program of education for all officers. Every aspect of the NWC program is shaped by the goal of producing graduates who, given a particular national security challenge, can assess that challenge and develop a credible, comprehensive national security strategy to deal with it.

Second is the task to educate. The OPMEP defines *educate* as conveying general bodies of knowledge and developing habits of mind applicable

to a broad spectrum of endeavors.[14] As the OPMEP directs, NWC aims not at enhancing its students' capacities to perform specific functions and tasks, but rather at fostering their breadth of view, diverse perspectives, critical analysis, abstract reasoning, comfort with ambiguity and uncertainty, and innovative thinking, particularly concerning complex problems.

Third is the charge to educate future leaders for high-level policy, command, and staff responsibilities. In designing and executing its curriculum, NWC looks beyond its graduates' follow-on assignments to the highest, most important strategic responsibilities they will hold during the remainder of their careers. As the OPMEP stipulates, NWC concentrates on developing the habits of mind, conceptual foundations, and critical faculties graduates will need as strategic leaders or as key strategic advisors in the Department of Defense, Department of State, and other U.S. Government agencies.

Finally, there is the charge to educate future leaders of the "Armed Forces, Department of State and other government agencies," as well as International Fellows. All aspects of NWC are thoroughly joint and interagency—its origins, its programs, its faculty, and its students. Because a joint and integrated perspective permeates and informs the entire NWC program, the experience forces students out of their intellectual and cultural comfort zones. The nature of the NWC environment ensures that all graduates are able to transcend their particular Service, operational, or intellectual frame of reference and can operate from a truly joint perspective.

Desired Program Outcomes

Given the NWC mission, its aim is to develop national security strategists who are expert in the dynamics of force, diplomacy, economics, and information, and the orchestrated employment of those instruments in pursuit of national interests. Thus the College has set for itself two goals:

- First, improve the quality of applied strategic thinking of all its graduates, shifting their intellectual and professional perspectives from the tactical and operational to the strategic, and developing the analytical ability and judgment they will need to function in the gray areas that characterize the complex, civil-military, multinational interactions at the national-strategic level.
- Second, produce within each class a cadre of highly skilled strategic practitioners—bona fide strategists and strategic advisors who demonstrate the high degree of expertise, conceptualization, and innovation in national security strategy formulation that will be needed to lead the Nation's strategic efforts in the future.

Working from its mission and its two goals, the college has formulated six core educational outcomes that define the essential concepts our graduates must master and that serve to integrate the entire academic program:

- apply the logic of strategic and critical thinking in national security matters
- analyze the practice of strategic leadership in national security
- analyze how domestic, transnational, and international factors shape national security strategy and policy
- analyze the nature, character, and conduct of war
- evaluate the nature, purpose, capabilities, limitations, and principal concepts for use of the instruments of national power—diplomatic, informational, military, and economic
- develop national security strategies for situations of peace, crisis, and war.

The National War College achieves its learning outcomes via an extensive core curriculum, taught sequentially, that constitutes 80 to 85 percent of the overall program. That core curriculum examines the fundamentals of thinking strategically, the elements and instruments of national power and influence, the theory and practice of war, the domestic and international context of national security strategy, and contemporary military capabilities and doctrine. Students cap their studies with a year-long Individual Strategy Research Project (ISRP) in which they select a contemporary national security challenge, research and analyze it, develop a strategy to deal with it, present their strategy in a strategy paper, and then present and defend that strategy to a two-person faculty team. In essence, they end the year demonstrating they can do what the college has set as its purpose: produce graduates who, given a national security challenge, can assess that challenge and develop a strategy to deal with it.

Measuring Success

The National War College has produced approximately 11,300 graduates over the past 70 years. As stated previously, its mission is to educate future leaders for "high-level policy, command, and staff responsibilities," and if measured by the high-level responsibilities alumni have achieved, then the college has achieved this goal. Among its alumni are a U.S. Senator, Senator John McCain (Class of 1974), and a Secretary of State, General Colin Powell; 3 National Security Advisors, General Powell, Lieutenant General Brent Scowcroft (1968), and General James Jones (1985); at least 2 State Department graduates who have achieved the highest Foreign Service Officer rank of Career Ambassador, Ambassador Stapleton Roy (1975) and Ambassador William Brownfield (1993); and 7 of the 19 Chairmen of the Joint Chiefs of Staff, starting with the 6th, General Earle Wheeler (1950), and including the 18th, General Martin Dempsey (1996). Since the college's founding, 29 graduates became a Service chief (out of the 106 who have held those positions), and 30 graduates became combatant commanders (out of 97). And as of this writing, 26 percent of the Active four-stars and 18 percent of the Active three-stars are graduates. This record of achievement, from a student body that for the past several years has represented approximately 14 percent of the military officers who attend senior-level PME in a given year,

President Obama jokes with Vice President Biden and former Secretary of State Colin Powell following meeting in Oval Office, December 2010 (The White House/Pete Souza)

is a testament both to the quality of the college's incoming students and to the effectiveness of the college's efforts to hone those high-quality students' abilities as strategic practitioners.[15]

A review of the alumni rolls shows that of the 8,249 military officers who have graduated from the college over the past 70 years, 2,167 (26 percent) have made general or flag officer rank. A similar percentage of Foreign Service Officers (309 of 1,189 State Department graduates) have gone on to become Ambassadors. Not included in these numbers are the countless civilian agency members who attended the school as GS-14s and GS-15s and went on to join either the Senior Executive or Senior Intelligence Service ranks. Nor does it include those military members who may have retired from Active service and then chose to continue to serve the government as civilians. Two such examples are Colonel James Baker, USAF (Ret.) (2006), who currently serves as the Director for Net Assessments in the Office of the Secretary of Defense, and Colonel Troy Thomas, USAF (Ret.) (2010), who currently serves as a special assistant to the President for National Security Affairs.

U.S. students who reach the highest level of government service after graduation are just one mark of the college's success. The college also is a springboard for the careers of its International Fellow graduates. Since 1990, 541 International Fellows have graduated from the institution in support of the Chairman's vision to engage and foster relationships with foreign partners. While most of these graduates have achieved general or flag officer rank in their respective countries' services, many have gone on to become service chiefs, chiefs of defense, or ministers of defense. The University's International Student Management Office recognizes these officers by inducting them into its International Fellows Hall of Fame, and, at last count, 19 NWC International Fellow alumni have received this honor.

Faculty performance also factors into the college's success, both as contributor and product. Given that the use of the Socratic method in small-group seminars (no more than 13 students per seminar) is at the heart of the college's educational approach, its faculty members are critical to the college's success. While all faculty contribute inside the college, however, and are recognized experts in their fields, some of them contribute well beyond the classroom and shape the discussion of strategic issues on the national stage. For example, the first deputy commandant for international affairs was Ambassador George Kennan, who shaped the country's containment strategy. On the faculty the same year as Ambassador Kennan was Dr. Bernard Brodie, who went on to shape U.S. nuclear strategy. Other luminaries over the years include Colonel John Collins, USA (Ret.), Dr. Bard O'Neill, Dr. Terry Deibel, Dr. Martin van Creveld, and Dr. Bud Cole, to name just a few.

Challenges

With the overall drawdown of personnel and budgets over the past few years, some Services struggle to fill their quotas of students and faculty at

the school. Part of NWC's success has depended on the OPMEP's requirement that there be equal representation of officers from all three military departments in both the student body and on the faculty so that no one military culture shapes the discussions in and out of the classroom.[16] The inability of one or more military departments to fill their quotas upsets the balance among the departments, which is a central pillar of the distinctive form of joint education the college provides. While there are plans to address this, it currently remains an issue that requires monitoring.

Budget reductions have also cut into the college's ability to send students overseas to conduct on-the-ground field research for their year-long capstone strategy projects, the ISRP. While the students do extensive research and analysis for their strategy projects stateside, conducting research on the ground overseas is critical because, as former Secretary of Defense Robert Gates has stated, you travel "because you just have to see and hear some things in person to understand them fully."[17] The college groups the students into small research teams (8 to 11 students), each focused on one of 16 to 20 strategically important countries selected by the college. Each student then selects a particular security challenge related to the country assigned to his or her team, and that challenge becomes the subject of the student's capstone strategy project. Working together under faculty tutelage and through the U.S. Embassy in their assigned country, students arrange a series of meetings with various agencies and entities that can help them more clearly understand the strategic situation in the country. With less funding available, the college has had to halve the amount of time students spend on their overseas research, and this affects the quality of their strategic assessments and the strategies that rest on those assessments.

In addition to the effects of budget reductions, the college also faces challenges concerning facilities, information systems, and academic technology. As part of its own effort to deal with reduced funding allocations over the past several years, NDU has sought ways to maintain the effectiveness of its colleges and components while maximizing the efficiencies where possible. NDU is also seeking ways to free up funds to invest in academic technology for the future to maintain the quality of the student experience. This is leading to changes in support and staffing at the component level that NWC needs to adapt to in order to face fiscal realities and to continue successfully fulfilling its mission.

The Way Ahead

As the common wisdom about mutual funds avows, "Past performance is not an indicator of future results." Despite its success to date, NWC is always examining possible ways that it can do a better job educating future leaders for high-level policy, command, and staff responsibilities. The past 15 years of conflict indicate a U.S. propensity for use of force, with less reliance on orchestration of all the instruments of power, to achieve or protect the Nation's interests. Over the past year, the college has undertaken an extensive review of its approach to how it conceptualizes and presents the instruments of power. The goal is to ensure graduates can employ the diplomatic, informational, and economic instruments with just as much facility as they can the military instrument. To do that, graduates must understand the fundamental nature of each of those nonmilitary instruments; the capabilities and shortcomings of each; how each produces effects and with what certainty under different conditions; and how to combine, coordinate, and integrate them to produce strategic synergies.

The faculty is undertaking this task to prepare students for the leadership roles they will fulfill in the years to come. Over the course of their 10 months at the college, students will examine classic theory, analytical frameworks, important historical cases and analogies, and emerging concepts central to understanding and employing all the instruments of national power. It is crucial that they leave the college with a firm grasp of not only the enduring nature and changing character of war, but also how to craft creative, effective whole-of-government solutions to national security challenges short of war to ensure and sustain the peace. **JFQ**

Notes

[1] Portions of this article come from the National War College (NWC) submission for the Process of Accreditation for Joint Education.

[2] Leonard T. Gerow, *Report of War Department Military Education Board on Education System for Officers of the Army* (Washington, DC: War Department, May 27, 1946), available at <http://cgsc.contentdm.oclc.org/cdm/ref/collection/p4013coll11/id/1266>.

[3] Chairman of the Joint Chiefs of Staff Instruction (CJSCI) 1800.01E, *Officer Professional Military Education Policy* (OPMEP) (Washington, DC: The Joint Staff, May 29, 2015), available at <www.dtic.mil/cjcs_directives/cdata/unlimit/1800_01a.pdf>.

[4] Ibid., 1.

[5] Ibid., E-1.

[6] Ibid., B-1.

[7] Ibid., A-A-7.

[8] Ibid.

[9] Ibid., A-A-8.

[10] Ibid.

[11] Ibid., A-A-7–8.

[12] Ibid., E-F-1.

[13] CJCS Memorandum CM 344-90, "Military Education Policy Document," May 1, 1990.

[14] Ibid., A-3.

[15] This percentage does not include those officers who attend fellowships or who participate in an exchange program with an international partner's senior-level War College. A review of one Service's senior developmental education list indicates almost 20 percent of the annual professional military education (PME) students attend a fellowship, foreign, or other nontraditional PME. The 14 percent referred to in the text is calculated from data in a January 2015 Center for Naval Analyses report, "JPME in the Current Fiscal Climate," conducted for the Joint Chiefs of Staff J7, Director for Joint Force Development.

[16] CJCSI 1800.01E; per the OPMEP Enclosure B, Paragraph 5 (3), "NWC, ES [Eisenhower School], JAWS [Joint Advanced Warfighting School], and NIU [National Intelligence University] must have approximately equal representation from each of the three Military Departments in their military student composition/seminars which award JPME credit."

[17] Robert M. Gates, *Duty: Memoirs of a Secretary at War* (New York: Vintage Books, May 2015), 35.

National War College
(Katie Freeman)

The National War College

Marking 70 Years of Strategic Education

By Janet Breslin-Smith

Seventy years ago, a war-weary Washington struggled with uncertainty and alarm. Exhausted after years of global conflict and still carrying memories of the Great Depression, America yearned for home and prosperity. Yet barely 6 months after victory in World War II, Washington faced troubling signs of danger ahead. A past ally was becoming a threat. Soviet aggression shattered postwar dreams of peace. With the dawn of 1946 we entered a new strategic era—the bipolar struggle with the Soviet Union.

The Nation responded. Testifying to the resilience and creative pragmatism of American leadership, Washington's alarm and uncertainty soon were replaced by productivity and accomplishment. Key

Dr. Janet Breslin-Smith was Chair of the Department of National Security Strategy at the National War College (NWC) and taught at the college from 1992 to 2006. She is co-author of *The National War College: A History of Strategic Thinking in Peace and War* (NWC Association, 2008). She is President of Crosswinds Strategic Consulting.

Senior American commanders in Western Europe, 1945; seated, left to right, William Hood Simpson, George S. Patton, Carl A. Spaatz, Dwight D. Eisenhower, Omar Bradley, Courtney Hodges, Leonard T. Gerow; standing, left to right, Ralph Francis Stearley, Hoyt Vandenberg, Walter Bedell Smith, Otto P. Weyland, and Richard E. Nugent (U.S. Army/National Archives and Records Administration)

political, military, and diplomatic leaders encouraged and embraced experimentation, and within a year of war's end, they had created new institutions, formulated new strategy, and developed new congressional support.

In today's climate of bureaucratic gridlock and institutional rigidity, it is worth noting that the Nation's capital once welcomed new ideas that challenged past assumptions, and worked across party lines with the Executive Branch. Washington quickly set aside entrenched interests and readied itself for what was to be called the Cold War.

Creativity did not emerge overnight. It was forged from years of executive and congressional engagement during the New Deal era, and benefited from national wartime unity and the specific talents developed during the war, especially by the Army, for rigorous planning. The war had made Washington a marketplace for fresh thinking and institution-building. The history of the postwar period reflects the stature of military leaders such as George C. Marshall, Dwight D. Eisenhower, and Henry H. "Hap" Arnold, the experimental heritage of the Franklin D. Roosevelt years, and fresh opportunity presented by the new Harry Truman administration. There was also a special urgency to these years, as dramatic new technologies disrupted the tried and true notions of war and peace. Atomic weapons, missile technology, breakthroughs in the speed of flight, and new forms of communication jolted Washington into action.

Any sense of complacency, "the stovepipe" constraint in our current terminology, was replaced by a shared belief that this new threat required new national security thinking. The military, diplomats, and scholars had to work together. But first they had to study together.

First Attempts at Joint Professional Military Education

As early as 1943, in the midst of war, Generals Eisenhower, Arnold, and Marshall and Admiral Ernest King were looking ahead to redesign and improve professional military education and, ultimately, create a new architecture of national security. In that year, these men developed the first "joint" evolution in professional military education—the Army-Navy Staff College, a 12-week program for selected officers for command and staff duty in unified or coordinated commands. This idea caught on and by 1944 there was growing support, not only for enhanced joint senior officer education but also for a larger institutional reorganization cutting across the Executive Branch.

Within months of war's end, these military leaders, working with officials in the Truman administration and with Congress, began to develop the component parts of what was to become the National Security Act of 1947. There was an active give and take over suggestions to consolidate the Departments of War and the Navy, to create an independent Air Force, to centralize and improve national intelligence, and to create a coordinating National Security Council for the President.

Underlying these structural changes was a shared vision that the Nation needed a new and broader focus on strategy, grand strategy, the "interrelationship of military and nonmilitary means in the promulgation of national policy," to meet the challenge posed by an aggressive Soviet Union and its economic ideology of Marxism. This vision found its home as the foundational concept for the National War College, which celebrates its 70th anniversary this year.

Today the United States, and indeed the world, struggles with a different challenge. We are confronted with a complex religious, political, and cultural struggle, a self-conflicted mass movement embracing terror tactics and an aggressive religious ideology. We are not even sure what to call it.

Indeed, Washington has been amazingly slow at, if not incapable of, finding new strategy and being open to new ideas. Given this prolonged failure, it may be useful to examine the late 1940s and 1950s, the early years of the War College, for lessons that can be applied to today's search for a new and more effective strategy. It may also remind us of a time past, "when government worked."

The Idea for the National War College

Eisenhower, Marshall, and Arnold's vision for the new War College was clear from the beginning. They wanted to experiment with a 10-month program for military and Foreign Service Officers at the 20-year mark of their careers. They wanted to break down Service-culture barriers by educating officers together and they wanted a student body that included the broader national security community.

The original mission statement of the College reflects these early concerns:

1. to prepare senior military officers, foreign service officers and other national security professionals for higher levels of responsibility
2. to foster greater understanding and cooperation between the services and agencies.[1]

But Eisenhower's vision went beyond the bureaucratic. He wanted to change the way officers thought. Writing in January 1946, he stated his intentions for the school:

Since [the College] *is at the top of the military educational system, one of its primary functions should be to develop doctrine rather than to accept and follow prescribed doctrine. . . . The War College approach to any problem should not be bound by any rules or accepted teaching. If this is not done, the War College loses one of its most valuable and essential assets. The course should be designed to develop officers for high staff and command positions in both peace and war.*[2]

As Eisenhower and Arnold discussed the new school, they urged that the student body include not only military and Foreign Service Officers, but also "personnel from non-military agencies other than the State Department." As he sketched out his ideas, Eisenhower wanted to pave the way for the new national security organization that was being developed in those transitional months following V-J Day. He proposed that a new joint and interagency college, a National War College, would be the culmination of an officer's professional military education. Eisenhower wrote that "it is the War Department opinion that eventually graduation from the College should as a rule be a prerequisite for selection for higher commandant and staff positions."[3] He believed the National War College should be a unique joint school for select graduates of the Service-specific colleges.[4] He also looked beyond the military to see the school as offering professional executive education for the newly imagined larger national security community.

Eisenhower, Marshall, Arnold, and King had taken the first step for joint professional military education with the formation of the Army-Navy Staff College (ANSCOL) in 1943. Cementing this idea in a new institution required political skill and attentiveness to Service sensibilities on the part of General Eisenhower and Admiral Chester Nimitz, Chief of Naval Operations. The National War College would initially be commanded by a naval flag officer, Vice Admiral Harry Hill, with deputy commandants representing the other Services on rotation. A new Armed Services Staff College, for midlevel officers, would be located at the Naval Base in Norfolk, Virginia, while the War College would be on an Army post. And it was not just any Army post. As the first annual report of the War College noted, "In February, 1946, General Dwight D. Eisenhower, Chief of Staff of the Army, designated the Army War College, Washington, DC, as the site of the new college. The necessary alterations were made possible through the contribution of $140,000 by the War and Navy Departments."[5]

In that same month, another panel on postwar education, chaired by Lieutenant General Leonard Gerow, recommended a broader vision for professional education. The Gerow Board proposed a new National Security University, including:

- an Administrative College
- an Intelligence College
- an Industrial College
- a new joint National War College to replace the Army War College
- a State Department College, which would be the senior school for Foreign Service Officers.

All of these colleges would be collocated at the tip of Greenleaf Point, the Old Washington Army Arsenal in Southwest Washington, now known as Fort Lesley J. McNair. However, the early promise of joint and interagency education was not to be. While the Industrial College and the War College held down two sides of an imagined academic quadrangle at Fort McNair, the other colleges—and thus hope for coordinated professional development—were postponed.

The Role of the State Department

The State Department did not develop its own college, either for lack of funds or interest, much to the dismay of Eisenhower, Marshall, and Arnold. After a year of inconclusive discussion, State decided to simply be included with the War College. A 1970 letter to National War College historian James Stansfield recounted State's quandary:

There were continuing efforts in 1945–1946 to obtain the participation of the Department of State and its Foreign Service Officers in the postwar ANSCOL. We never could find anyone in State willing to make a decision on this. Sheldon Chaplin, then Director of the Foreign Service, supported the idea in principle, but could not move his superiors to make a basic decision. Hence the new National War College was organized primarily as a military operated school.[6]

In January 1946, both the Secretary of War and the Secretary of the Navy wrote to Secretary of State James Byrnes, advocating State participation. Byrnes complained that State was shorthanded at the Department, but he later concurred with their proposal to include Foreign Service Officers as students and faculty.

Both Eisenhower and Nimitz were delighted. In Eisenhower's words, the military needed "a little training in diplomacy." Indeed, the first commandant, Vice Admiral Harry Hill, told the students in 1946 that "never before had the need for mutual understanding and teamwork between the State Department and the Armed Forces been so necessary."

To mark this understanding, the War College would have a special deputy commandant for foreign affairs. In an inspired choice, George Kennan, a long-time Soviet expert, most recently Deputy Chief of Mission in Moscow, was selected for this position. Actually, his selection was quite extraordinary, reflecting a rare Washington insider serendipity. Just months before the War College opened, Kennan had been tasked, as were other senior diplomats, to analyze Joseph Stalin's new aggressive posture and statements. Kennan's thorough evaluation of Soviet culture, history, and Stalin's worldview caught the attention of then–Secretary of the Navy James Forrestal, who circulated it among his Pentagon colleagues. In a fortuitous chain of events, by late summer in 1946, President Truman and George Marshall had reviewed and approved of this analysis. Kennan was called back from Moscow, and as a result of Forrestal's support, he was appointed the first Foreign Service Officer to be part of the leadership at a military institution.

Kennan and the Development of Strategy

George Kennan brought to this assignment great enthusiasm and intellectual production. As he recalls in his *Memoirs*, "The College was intended as the senior establishment for in-service training in the problems of national policy, military and political. This being only the inauguration of its existence, the program for the first year was necessarily experimental. We were in a position to try out new ideas of method and substance in teaching and this was in itself exciting."[7] Kennan underscored the creativity of that period in Washington:

It was the first time the United States Government had ever prescribed this area of inquiry for study at an official academic institution embracing in its student body and teaching staff all three services as well as the State Department. Not only were we all new to this subject, personally and institutionally, but we had, as we turned to it, virtually nothing in the way of an established or traditional American doctrine which we could take as a point of departure for our thinking and teaching. It was the mark of the weakness of all previous American thinking about international affairs that there was almost nothing in American political literature in the past one hundred years on the subject of the relationship of war to politics.[8]

Kennan treasured his association with the command leadership of the college as well as the unique student body:

Most of the officers from the armed services were men with recent distinguished war records, but they had by no means been chosen for this alone. Mature, thoughtful, keen, pleased to be there and anxious to make the most of it, they were a joy to teach. One learned from them as one taught.[9]

As he looked back at that first academic year at the War College, Kennan felt it was "the occasion for a veritable outpouring of literary and forensic effort on my part. I look back today with a slightly horrified wonder on the energies this frenzy reflected."[10]

It was certainly a most understandable frenzy, given his observation that many in Washington were falling into despair over Soviet actions and "jumping to the panicky conclusion that this spelled the inevitability of an eventual war between the Soviet Union and the United States." With the advent of atomic weapons, their destructive capability being developed by both superpowers, Kennan searched for a strategy, to avoid what would come to be known as "mutually assured destruction." He led in the effort to find "measures short of war,"[11] which would advance national interests. He argued that the United States should take advantage of "the weaknesses of Soviet power, combined with frustration in the external field, to moderate Soviet ambitions and behavior." Kennan wrote that the Soviet leaders "were not supermen. Like all rulers . . . they had their internal contradictions and dilemmas to deal with. Stand up to them, I urged, manfully but not aggressively, and give the hand of time a chance to work."[12]

Kennan's conceptual work at the War College contributed not only to a new strategic framework for the United States but also to the course of study for that first academic year. In the months preceding Kennan's arrival and the opening of the college, Admiral Hill reached out to academic leaders around the country and regional area specialists. All offered suggestions of the curriculum and teaching style. The initial 10-month program was divided into two semesters. The fall term was focused on U.S. foreign policy, "measures short of war," and was taught by Kennan and temporary faculty from major universities and research centers: Hardy Dillard from the University of Virginia, Walter Wright from Princeton, and Bernard Brodie and Sherman Kent, both from Yale. The spring term focused on "military elements of national power as a means of attainment of United States policy objectives" and was taught by the military faculty. Thus, the new War College curriculum gave equal weight to war and measures other than war.

As Kennan again reflected in his *Memoirs*, this course of study itself was new:

The War College course, particularly during the autumn term, was focused on the interrelationship of military and non-military means in the promulgation of national policy. It was a course, in short, on strategic-political doctrine. . . . This was the first time I had personally ever had occasion to address myself seriously, either as a student or as a teacher, to this subject. It was also the first time the United States Government had ever prescribed this area of inquiry for study in an official academic institution embracing in its student body and teaching staff all three of the armed services, as well as the State Department.[13]

Throughout the year, the class would be confronted with a series of strategic dilemmas, designed "to increase students' capacity to think broadly, conceptually, analytically, and critically as they involve themselves in grand strategy and the United States national security policy—its formulation and implementation."

The First Academic Years

When the War College opened on September 3, 1946, everything was in place for this academic experiment: A provocative course of study, a faculty and student body of combat veterans, Foreign Service Officers, academic leaders, and agency professionals at the midpoint of their career. Standing on the stage in what is now Arnold Auditorium, Commandant Hill welcomed the inaugural class. His message captured the excitement of this new educational experiment. He began, "It is a great honor and privilege for all of us to be associated with this new college, particularly at this stage in world affairs, where every day new problems of state are rising, the solution of which is of vital concern to this country and the world." Hill urged the students to "keep your minds flexible and free from preconceived ideas," and prepared them to think anew: "Wars cannot be considered only in light of their military objectives. World events today are highlighting the fact, more clearly than ever before, that political and economic objectives have an equal or even greater import than those of a military nature."[14]

Embracing this change in his own thinking on the subject, Hill shared with the students his own transition from theater commander to commandant:

Last year when I received orders to this duty, I was in Manila preparing to take the 6th Army into Japan. General [Walter] *Krueger was embarked on my flagship, and I had many pleasant and instructive discussions with that outstanding warrior about the problems of military education. And I will always remember his basic admonition: 'make 'em ponder.' That is exactly what we propose to do here—to give you practical problems upon which to think—and ponder—and arrive at individual conclusions you are ready to defend against all attacks.*[15]

As the War College began, that admonition—to "make 'em ponder"—established a tradition and atmosphere that attracted the highest leadership in the land. President Truman and Secretary Forrestal attended lectures in Roosevelt Hall, members of the Cabinet and senior military leaders spoke in Arnold Auditorium, Representatives and Senators often met with speakers and students. The commandant's residence became the gathering point for policy luncheons and dinners. It could be said that these conversations began the firm foundation for new grand strategy. Away from the press, in the private intimacy of the War College and the refuge of Fort McNair, key political and military leaders could join with academics to better understand national security challenges and think through strategy. As Kennan observed at the time, "Officers of Cabinet rank, generals, and Senators sat at our feet as we lectured. The college came to provide a sort of academic seminar for the high echelons of governmental Washington generally."[16]

Rekindling the War College Contribution to Thought and Strategy

Today, Washington once again struggles with uncertainty and alarm. Almost 40 years into a struggle expressed both within Islam and between Islam and the West, the United States still searches for strategy. While the 40-year Cold War began with strategy, this new era seems adrift and reactive. What aspects of War College history might provide guidance? Is there something about the atmosphere of collegial interaction, the encouragement "to ponder," to look for the "sources of conduct," to understand the nature of the conflict, that might inform the incoming administration as it prepares for responsibility, much as the Truman and Eisenhower administrations did in the early years of the War College?

It is worth consideration. The tranquility of Fort McNair still beckons the weary bureaucrat and politician. The access to both military and agency professionals, as well as academic leaders, is unique in the country. Indeed, Eisenhower returned to the War College in 1953, not as a military leader but as a recently elected President, to make new use of the institution he had inspired.

George F. Kennan, 1947 (Library of Congress/ Harris & Ewing)

Realizing that his own Cabinet and the national security community were divided on policy, Eisenhower wanted a thoughtful review of past strategy, assumptions, and projections. For security and logistical reasons Eisenhower called upon the War College to host this strategy exercise in June 1953, shortly after graduation. Named Project Solarium, the exercise was an outgrowth of discussions in the third floor White House solarium, among Eisenhower, Secretary of State John Foster Dulles, and George Kennan, reviewing strategy regarding the Soviet Union.

Eisenhower wanted to hear alternative strategies and consider his options, so the exercise required separate task forces to develop three approaches to strategy. Each task force included experts, working with background documents on Soviet politics, history, economic and military capabilities, Soviet leaders, and Soviet motivation for action. Team A was headed by Kennan himself and considered primarily a political strategy, alliance structures, following along the initial concepts of "containment." Team B considered an expansion on the "containment" idea by hardening opposition to the Soviet Union, using the prospect of war and possible nuclear retaliation. Team C analyzed and advocated the "roll

back" concept, current at the time, to counter Soviet expansion and diminish its influence through a variety of military, political, and economic means. Over that summer, the various task forces had time for analysis and deliberation away from the pressures of daily work and politics. Kennan and Lieutenant Colonel Andrew Goodpaster were the in-house experts. Each group submitted its recommendation to the National Security Council. It was on the basis of these analyses and recommendations that Eisenhower decided to generally follow Kennan's approach. The strategy known as "containment" endured, even with adjustments, throughout the Cold War. There was no direct military attack and no use of nuclear weapons between the two national protagonists throughout this period. And in 1991, the Soviet Union did indeed succumb to its own "internal contradictions and dilemmas."

How might such an exercise be recreated today? Although many others have advocated new Solarium exercises, most have focused on the bureaucratic, budgetary, and interagency aspects of strategy. But there is a case to be made to go back to the original genius of the original Solarium model—a focus on the history, culture, motivations, actions, and psychology of the opponent, with area experts informing the debate.

In 2017 a newly elected administration faces a challenge much different than the Cold War Soviet threat. In the midst of modern technology and ever-growing globalization, today's challenge, ironically, seems somehow ancient and uncomfortable. As Secretary of Defense Robert Gates argued in 2007, our past focus during the Cold War

covered over conflicts that had boiled and seethed and provoked war and instabilities for centuries. . . . Ethnic strife, religious wars, independence movements. . . . These old hatreds and conflicts were buried alive . . . but like monsters in science fiction, they have returned from the grave to threaten peace and stability around the world.[17]

In the 10 years since Secretary Gates's warning, the threat to peace and stability around the world is unabated. Voters are looking for new approaches, new policy. The incoming President should follow Eisenhower's example and commission a deeply informed and competitive strategic review.

Is it time to inaugurate a new Project Solarium? Given the specific conundrum of an expansionist, violent, religious ideology, an Arab world beset by crisis, is this not even more perplexing than Cold War puzzles? A reimagined Project Solarium would not be a highly classified and secret exercise, but rather an innovative unclassified exercise, bringing together new scholarship and new experts on Islam, the Middle East, North Africa, and South Asia. Muslim American scholars, Middle East studies scholars, business leaders, and diplomats with long-term experience in the region could come together once again in the quiet of Roosevelt Hall "to ponder" this new religious movement and the crisis across the Muslim world. They could recapture Kennan's belief that the War College could be a seminar for the city.

Following past experience, this exercise should begin with an intensive foundational discussion and analysis of Islamic and Arab politics, political Islam, regional history, culture, and worldview. The group could assess the impact of sustained low oil prices, sustained conflict in the region, and the next generation. The exercise should include both younger and experienced scholars and policy experts, mirroring the role played by Goodpaster and Kennan in the initial exercise. The challenge to the group will be, as it was in Eisenhower's era, to consider "measures short of war," using Kennan's wording, an intellectual challenge in contrast to existing tactical and operational military approaches.

Following this exercise and review, the President's new National Security Council would assess the Project Solarium foundational assumptions and alternatives. As a follow-on to the exercise, the next entering class at the War College—military students fresh from deployment, Foreign Service Officers, and agency students experienced in the policy world—would incorporate the findings of the exercise into the academic program as they did over six decades ago.

The new administration will struggle to find a way to defeat the Islamic State of Iraq and the Levant. Even 15 years on, strategy can emerge anew. Washington can once again welcome new ideas, rethink past assumptions, and work together to find long-forgotten peace and opportunity in the world. **JFQ**

Notes

[1] The National War College (NWC), *Annual Report 1946–47*, Special Collections, National Defense University Library, Washington, DC.

[2] "Memorandum for the Commandant, Army and Navy Staff College," January 28, 1946, signed by Dwight Eisenhower (emphasis in original). Reprinted in Janet Breslin-Smith and Clifford R. Krieger, *The National War College: A History of Strategic Thinking in Peace and War* (Washington, DC: NWC Association, 2006).

[3] "Memorandum for the Commandant, Army and Navy Staff College."

[4] Dwight D. Eisenhower proposed that all existing Service colleges be closed and the new joint National War College be the only senior professional military education institution. Both the Army and Navy resisted this idea, which eventually died.

[5] National War College, 2.

[6] Robert L. Clifford, "Letter to George J. Stansfield, April 29, 1970," Special Collections, National Defense University Library.

[7] George F. Kennan, *Memoirs, Vol. 1, 1925–1950* (New York: Pantheon, 1967), 306.

[8] Ibid., 308.

[9] Ibid., 307.

[10] Ibid., 307–309.

[11] Hence the title of Kennan's lectures at the War College: Giles D. Harlow and George C. Maerz, eds., *Measures Short of War: The George F. Kennan Lectures at the National War College, 1946–1947* (Washington, DC: NDU Press, 1991).

[12] Ibid., 364.

[13] Ibid., 308.

[14] Harry W. Hill, *Convocation Address to the National War College Class of 1946–47*, National Defense University Library, Special Collections, 1.

[15] Ibid., 2.

[16] Kennan, 306.

[17] Remarks by Secretary Robert M. Gates, Landon Lecture, Kansas State University, November 26, 2007, 2.

Marines from Infantry Training Battalion, School of Infantry–East, navigate through obstacle course at Camp Geiger, North Carolina, October 2013 (U.S. Marine Corps/Paul S. Mancuso)

Meaningful Metrics for Professional Military Education

By Joan Johnson-Freese and Kevin P. Kelley

Professional military education (PME) is guided by the formal requirements put forth by Congress as part of the Goldwater-Nichols Department of Defense Reorganization Act of 1986. Initially, the intent largely focused on training and educating military officers to operate in a joint environment. At the higher levels, joint PME (JPME) I (intermediate) and II (senior)—the "colleges"—parameters were also expanded toward providing officers the education necessary to understand the context of theater and strategic environments and the critical thinking skills to address increasingly complex environments.

Subsequently, studies by private consultants, the General Accounting Office, and Congress itself have been conducted toward assessing programs and identifying further issues.[1] Focusing here on the colleges, those studies have found areas of strength in the JPME programs and areas where improvement would serve educational purposes. Over the years, JPME colleges have been accredited to award master's degrees by the same regional accreditation bodies that oversee civilian academic institutions. But a dilemma is created within JPME by its dual purposes: graduating officers to meet Goldwater-Nichols requirements and getting them back to their operational billets as quickly as possible, and maintaining academic rigor within an accelerated course taught by a largely nontraditional faculty.

Dr. Joan Johnson-Freese and Dr. Kevin P. Kelley are Professors of National Security Affairs at the Naval War College.

Sergeant 1st Class John Wesserling receives congratulatory handshake from Command Sergeant Major David M. Clark during inaugural Benavidez Leader Development Program graduation ceremony in Thayer Award Room at West Point (U.S. Army/Vito T. Bryant)

Over the past several years PME has both come under fire from critics, and touted its own rigor and innovation. Retired PME professors Dan Hughes and Howard Wiarda first openly suggested that JPME standards, methodologies, and objectives tended more toward training approaches that the military was more comfortable with—and that led to high graduation rates—than more complex ones.[2] Defense pundits such as Tom Ricks joined in, bitingly suggesting in his blog column, "Need budget cuts? We can probably start by closing the Air War College."[3] Other PME faculty, current and former, joined the discussion,[4] as occasionally did PME students themselves, largely through comments at blog sites such as *Small Wars Journal*, *War on the Rocks*, and the U.S. Naval Institute blog. Institutional champions responded, sometimes in print toward engaging in useful dialogue, sometimes through backchannels, including suggesting that critics were simply disgruntled employees or the most dreaded of individuals in PME institutions and not team players.[5]

Recently, the Office of the Secretary of Defense (OSD) has taken a welcome and active interest in JPME. Through OSD Policy, an assessment of JPME "Institutional Rigor" was tasked in the Defense Planning Guidance (2017–2021).[6] Though the results are unavailable at the time of this writing, discussion with officials who have knowledge of the study suggests it will focus on resolving faculty issues at JPME institutions, such as administration and career progression—all worthwhile topics long overdue for attention. Curiously, however, it appears the "rigor" focus was dropped, apparently because it was quickly decided that PME rigor was "fine."

As a large bureaucracy, and whereas bureaucracies largely abhor change, the military is in general not an organization known for either acknowledging problems or altering comfortable ways of operation. Consequently, the "everything is fine" mentality has been a sort of mantra in PME, with institutional programs being accredited to award graduate degrees offered as evidence. However, the New England Association of Schools and Colleges (NEASC), as an example of the regional accrediting bodies, clearly states its accreditation parameters as follows:

NEASC Accreditation Attests to

- *substantial compliance with established qualitative standards*
- *integrity in statements to the public describing the institution's program*
- *institutional commitment to improvement*
- *sufficiency of institutional resources.*

NEASC Accreditation Does Not

- *guarantee the experience of individual students*
- *guarantee the quality of specific programs*
- *compare or rank institutions.*[7]

So accreditation does not inherently attest to the academic "excellence" and "rigor" often flaunted by PME institutions.[8] "Excellence" is part of an ordinal scale including unsatisfactory, satisfactory, good, excellent, and outstanding. Academic rigor is also a scale, but simply asserting that "my program is rigorous" without a benchmark means little. If JPME wants to claim excellence and rigor, then, in at least some ways, it must measure itself against the civilian academic programs at schools it claims as peers, where counterpart civilian strategists are educated, such as Harvard's John F. Kennedy School of Government, Tufts University's Fletcher School of Law and Diplomacy, The Johns Hopkins University's Paul H. Nitze School of Advanced International Studies, and Yale's Jackson Institute for Global Affairs.[9]

Civilian graduate programs are annually ranked by such entities as *U.S. News and World Report* and *Forbes*. While their specific methodologies vary somewhat according to discipline and other considerations, a combination of expert opinions, peer assessments, and statistical indicators—qualitative and quantitative—about the students and faculty is generally used.[10] If PME institutions truly aspire to be rigorous, an assessment similar to those used to rank "peer" civilian institutions should be conducted. The assessment could and should not only

be designed to account for PME "differences" but also allow for at least minimal comparisons of best practices common to civilian and PME institutions. It would go beyond the qualitative indicators of rigor largely currently relied on in PME, as those indicators have been shown to be of limited value and even spurious.

Naval War College Professor Nicholas Murray considered how PME metrics could be misused in a 2014 article in *Joint Force Quarterly*, looking at the Army Command and General Staff College:

the Command and General Staff Officer Course currently devotes roughly 250 school hours of study to mission command, directly or indirectly. This number comes from a total of about 700 hours of core and advanced instruction, going by the 2013–2014 academic year. That looks impressive on paper. However, only around 100 of the teaching hours truly involve critical thinking as it would be understood outside of PME.[11]

It is also interesting to compare that the total number of classroom hours of a 2-year master's program or master of business administration (MBA) program is between 350 and 450 annually.[12] Murray points out that classroom hours are being added to the staff school curriculum, leaving students increasingly less time to think and study. But reflection on what is being taught is an essential part of any quality educational program, though too often not the practice in JPME.

Such an assessment of rigor ought to be welcomed by PME institutions. The military thrives on metrics, including at PME institutions. Indeed, the rationale for hiring an increasing number of retired military officers as administrators at PME institutions is often to gather data for internal and external use. An Army University PowerPoint slide states that it "Takes Pride in Achievement of Measurable Goals."[13] But the transparency of the data and its validity for specific purposes can be tenuous. Though certainly valuable, educational metrics are more difficult to assess than those regularly used in training, business, or other fields; meaningful metrics offer institutional credibility and provide value in identification of areas ripe for improvement. No institution should see itself as no longer needing or potentially benefiting from improvement, making data validity and transparency important.

Establishing Credibility

The methodologies used by *U.S. News and World Report* and *Forbes* for their annual college rankings offer insights for measuring academic excellence, rigor, and perhaps even value. *U.S. News and World Report* rankings provide a largely holistic evaluation of institutions and accommodate different goals and parameters for undergraduate, graduate, and professional programs. *Forbes* focuses more on "outputs" (professional attainments postgraduation). While PME does not utilize academic admission standards—an issue unto itself—all military Services except the Navy compete for positions in PME graduate-level resident programs, and therefore graduates should be those in line for professional advancement. As such, overlap between the two ranking systems points out areas of common academic consideration, and unique aspects of the two provide areas of consideration potentially applicable to PME.

In terms of overlap, for example, both rankings consider student-to-faculty ratios and the quality of the teaching faculty. PME institutions similarly seem to recognize these as important metrics as well, as they regularly report these ratios and describe their faculties with such superlatives as "world class,"[14] "top quality,"[15] "highly qualified,"[16] and "superb."[17] However, the basis for using these superlatives, or an external verification, has never been given. In fact, individuals internal and external to PME institutions have raised questions related to faculty hiring and qualifications.[18] Therefore, it would serve PME institutions well to be able to provide a credible, externally verified assessment that backs its use of superlatives.

Ways to evaluate academic quality, institutional rigor, and curricular relevance include but are not limited to several areas also deemed similarly important in civilian academic institutions and measured by *U.S. News and World Report* and *Forbes*, which thus offer useful models. These models identify key areas considered important, such as quality of the faculty, and weight them in their overall assessments. While drawing from those models to design and weight a similar but appropriately tailored assessment tool for PME institutions is beyond the scope of this article and the methodological expertise of the authors, the general parameters for such a tool can be outlined, and that is our intent. Actual design and selection of such an assessment tool would likely best be done by assessment professionals under the auspices of an independent entity such as, again, OSD, since it is responsible for establishing and overseeing PME policy. Additionally, note is made regarding means to potentially utilize more standardized metrics or improve processes, which were identified in conjunction with development of these parameters.

Metrics That Matter

Overall Quality. Peer review is a standard method of "quality" evaluation in both academia and the military. "Academic peer scores" are also included as part of calculating *U.S. News and World Report* college rankings, whereby administrators at civilian institutions are surveyed regarding what they think of each other. Using that basic model, for example, PME institutions being assessed would be asked to provide the names of a number of other civilian and PME academic institutions, perhaps eight to ten, that it considers its peers—its equals in terms of "rigor." Naming peers is already done in conjunction with other PME assessments, such as those conducted by Service inspector generals.

The inclusion of the views of individuals at "peer" civilian schools would provide an indicator of whether a reciprocity of views as peers existed, and if not, why. Furthermore, it would act as a safeguard to avoid the potential for PME institutions to simply affirm the eminence of each other. The Program for the Assessment of Joint Education (PAJE),

Airman from 18th Aeromedical Evacuation Squadron explains his role in aeromedical mission to students attending JPME Okinawa Experience, Kadena Air Base, Japan, September 2016 (U.S. Air Force/Corey M. Pettis)

for instance, is loosely the intra-PME equivalent of accreditation. But PAJE inspection team members are drawn from several PME institutions to inspect one PME school in particular, at a point in time. These team members conduct inspections knowing that they will be on the other end of an inspection soon, raising the incentive for favorable findings all around. While the results of civilian accreditation inspections are made public, that is not the case for the PAJE, and so the pass/fail rates of PAJE inspections are generally opaque.

Quality of Faculty. PME faculties are hybrid faculties including academics, security practitioners, Active-duty military, and retired military. They will come to PME with a variety of backgrounds; therefore, faculty can be assigned numerical points based on a number of factors, some more applicable to certain types of faculty than others. For example, what percentage of the faculty has terminal degrees? In acknowledgment that some civilian schools are considered more rigorous than others, where a faculty degree was earned (top ranked, ranked, non-ranked) should be considered. Those types of factors deal with credentials upon hire. Equally important, however, is professional development after hire and over the course of a career. Such factors as national appointments (National Academy of Sciences), service to the profession, service to the institution and the Department of Defense, research and publications (university press books, books, peer-reviewed articles, publications that required external acceptance versus personal blogs, and conference papers and invited presentations) should be considered. Moreover, it is important to consider the arc of research of a faculty member to ensure a person is active in his or her field and also up to date and relevant (consistently active, versus one publication every 4 to 5 years).

Criteria for evaluating the quality of the civilian academic faculty, retired military faculty, and Active-duty faculty members would likely have some overlap; however, there would also need to be criteria unique to each group. In terms of overlap across the faculty, for example, all faculty members should teach in fields in which they have an appropriate background (for example, faculty teaching international relations should be trained in that field). All faculty members should also be expected to be excellent teachers. But differences in qualifications and, consequently, expectations must be considered as well.

Retired military faculty members make up a significant portion of college-level JPME faculties, though data on percentages are not institutionally identified. They immediately become counted

as part of the academic faculty and are given a professorial rank, though they have little or no enculturation to the academic profession. These individuals are typically officers who retired at the O-5 and O-6 rank. They can be tremendous sources of valuable experiences and military expertise. They may also have superb teaching skills especially tailored to the PME environment. The challenge in assessing the value associated with their experience is that some of that value is perishable as it becomes more removed from today's environments.

As such, metrics to evaluate these retired military faculty members should certainly give credit to those credentials valued for Active-duty officers, such as command, senior staff experience, and Pentagon assignments. But as faculty members with professorial rank, they also need to maintain demonstrated currency in these areas rather than just relying on expertise and experience that might be seriously dated. In that regard, evaluation of how effectively these officers maintain their expertise and currency by assessing how they are contributing to the continued development of their profession would be useful. Like civilian academics, research and publication must be an important metric. Different from civilian academics, though, retired military faculty might additionally—though not totally in lieu of research and publication—demonstrate currency through continued connectivity with Active-duty forces or nonacademic professional events.

For Active-duty faculty members, several obvious but not always followed standards should be considered. It is generally accepted that officers trying to teach other officers senior in rank to them is problematic due to cultural issues. As such, all faculty members for both intermediate and senior JPME institutions should be at the grade of commander/lieutenant colonel and above. Military faculty members teaching at either intermediate-level or senior-level PME institutions should have completed an in-residence program at that level. Though these standards would seem to be the minimal necessary standards for Active-duty faculty members, additional qualifications are highly desirable and should warrant extra credit in terms of assessing overall military faculty credentials. Command at the commander/lieutenant colonel level is especially valuable for a faculty member teaching command and staff–level intermediate courses, as is experience as a senior staff officer on a major staff, as well as joint duty experience. Command at the captain/colonel level and/or Pentagon experience should be especially valued for faculty teaching at senior war colleges.

Though academic credentials are not the primary consideration for Active-duty faculty members, such faculty members with advanced degrees relevant to the JPME curriculum they will be teaching should be recognized and valued in assessing overall faculty quality. Though it is rare, credit should be given to Active-duty faculty members who have graduate-level teaching experience prior to arriving at their PME institution. Factors such as those described look at the quality of individual faculty members. Additionally, however, the qualities of faculties as a whole are important.

Because of the unique nature of PME institutions, diversity across military communities and between warfighter and staff communities is also important. Equally important, diversity of thought and perspective considered critical to education often comes through demographic diversity, including such factors as gender and race. Otherwise, there is a real danger of "like teaching like" in terms of broader cultural perspective. Demographic diversity has, however, been largely neglected in PME to date, and should be considered.[19]

Finally, other institutional factors that relate to quality of the faculty—and standard best practices within civilian academic institutions—such as support for professional development (time and resources) and faculty involvement in institutional governance must also be considered.

Student Assessments. Students at PME institutions are professionals. Some at the war college level have held major command; therefore, it is assumed they can recognize quality, rigor, and relevance when presented with it. But what the students want and expect from JPME programs—in terms of both content and degree and type of challenge—widely varies. Student satisfaction is important, and student evaluations provide insight into satisfaction. The bigger problem is that most PME faculty members work on renewable 3- or 4-year contracts, with student evaluations a big part of that renewal criteria. That inherently makes it difficult for faculty not to feel compelled to teach first to "satisfy" the students, rather than to consider educational challenge and effectiveness.

While all PME institutions have piles of evaluations that might be offered as evidence of faculty quality, rigor, and relevance, their value can be limited. Some departments that utilize teaching teams, for example, have had students evaluate the team rather than the individual team members, thereby making it impossible to differentiate between the teaching proficiency of individuals. In some instances, data are referenced (even to the faculty) but not shared by administrators. With scrutiny, however, valid data from the plethora of evaluations conducted would likely be available.

Student survey variations among and within PME institutions also suggest that a common, professionally developed and validated student assessment protocol is needed. Such a common assessment system and tool would also allow for comparative data across institutions. PME institutions should certainly be allowed to include "other" questions specific to their own institutions, but not to skip the common questions.

Acceptance and Graduation Rates. Acceptance and graduation rates are other metrics strongly considered in ranking civilian schools. If, as standard reasoning goes, acceptance standards are high, graduation rates should be as well, and top schools want successful alumni. Harvard University has an approximately 6 percent acceptance rate, the Harvard Law School is approximately 16 percent, and the Harvard Business School is about 12 percent. Harvard University's graduation rate is approximately 93

percent, and that of Harvard Law is 96 percent. Harvard statistics, however, are not necessarily representative of overall rates: the graduation rates from a science, technology, engineering, or math–related graduate degree within 4 years is 66 percent, and 86 percent for an MBA.[20]

While students from all Services except the Navy compete for resident JPME billets, that competition is not based on academics since Goldwater-Nichols initially focused JPME requirements on instilling "jointness." Whether that rationale still holds, especially at the war college level, seems ripe for reconsideration. Theoretically, lack of an academic quality control system should mean a higher nongraduation rate in JPME schools than in schools with selective admission standards, or at least close to the overall averages. This seems especially true given the accelerated (10 months) nature of the JPME program and the fact that many of the students enter with academic backgrounds not requiring significant writing skills.

Yet while PME institutions have declined to release official data, their graduation rates, with graduate degrees, have been "guessed" as nearly 100 percent without contradiction.[21] Perhaps the pool of military students is better on average than the pool of students attending civilian state institutions. Perhaps military students are more motivated to work hard than their civilian peers. Perhaps the military students—highly trained in their fields, sometimes at a cost to taxpayers of as much as $6 million annually[22]—are considered so professionally valuable that they are simply "too big to fail." It is impossible to tell. But PME graduation rate data should be considered in any assessment. Special attention might also be paid to the characteristics of individuals who do not receive either their JPME qualification or graduate degree (for example, not having English as a first language or poor writing skills due to inexperience) so that appropriate attention can be paid at the institutional level to help future students to succeed.

If the best and the brightest are intended to attend resident PME programs, perhaps what is needed is a new approach to selecting PME students—a bidding system, for example. Already some Servicemembers "bid" for which school they would like to attend, but with final selection made within their Service based on their records. Under this suggested new system, students from any Service could bid to attend any war college or staff college at the appropriate stage of their careers—that is, when the profession sees that they are ready for this next level of education and when their assignment officers state that they could be made available for a year of education. They would have to submit an application similar to what a civilian university would require. The individual JPME institutions would then screen those applications like any admissions department at a university would do and send letters of acceptance. Several JPME institutions might accept some individuals, and those individuals could then select the one they prefer. JPME institutions' "acceptance rates" could be compared and the percentage of those who actually select each college could also be calculated and compared, potentially offering insight over time of the "street credibility" of each JPME school.

Output Metrics. Finally, just as the *Forbes* rankings focus on "output," there must be an element of that in any JPME assessment. One method of measuring success is to survey both graduates and the military "employers" of graduates regarding the "value added" of a graduate education. Some military institutions have attempted to contact alumni and employers, perhaps 5 years after graduation, with limited success. Here again standardization of both the assessment tool and the process used to administer that tool would significantly add to the comparative value of the data. Additionally, for those Services where selection for attendance to resident JPME programs is competitive, it could be assumed that individuals sent are slated for success. Therefore, promotion rates might also be considered as an "output" measure, as well as other military accolades.

Obviously, these suggestions and examples for developing meaningful metrics regarding academic excellence, rigor, relevance, and perhaps even value are not comprehensive. Our intent was only to demonstrate how the same methodologies used to evaluate a range of civilian academic institutions could be used as models for PME institutions. The key seems to be identifying common qualifiers relevant to any academic institution, and then developing and utilizing common measurements across institutions, while allowing for tailoring and the addition of unique measurements where required, as is already done for business, law, and graduate schools.

Recognize Excellence

It is time to stop simply professing the "superb" quality of the academic programs at our PME institutions and the "world class" standard of their faculties and actually determine whether such accolades are truly deserved. Would the institutions and their faculty be better served with concrete evidence of these claims rather than mere proclamations? Do the students who plan to attend these institutions and the citizens who pay for their existence deserve more than simple assurances from the leaders of these institutions of the value of the education they provide? If the answers to these questions are yes, then we need to do more to honestly assess the PME programs than is currently done.

Undoubtedly, Stanford, Harvard, and the Wharton School at the University of Pennsylvania revel in being named the 2016 top graduate business schools by *U.S. News and World Report*, and rightly so.[23] Those PME institutions that excel—and are indeed peers to the top civilian academic schools or among themselves—should similarly be identified and allowed their due bragging rights. Those schools identified as needing improvement would be served by an assessment as well, one that clearly identifies areas requiring attention. The military has never shied away from the use of benchmarks in operations; they serve a valuable purpose in military operations. Transparent data and benchmarks could serve a valuable purpose in military education as well. **JFQ**

Notes

[1] *Independent Study of Joint Officer Management and Joint Professional Military Education* (McLean, VA: Booz Allen Hamilton, 2003); *Joint Officer Development Has Improved, but a Strategic Approach Is Needed*, GAO-03-238 (Washington, DC: General Accounting Office, 2002); U.S. Congress, House Committee on Armed Services, Subcommittee on Oversight and Investigations, *Another Crossroads? Professional Military Education Two Decades after the Goldwater-Nichols Act and the Skelton Panel*, committee print, 111th Cong., April 2010, H. Prt. 111-4; Kristy N. Kamarsk, *Goldwater-Nichols and the Evolution of Joint Professional Military Education (JPME)*, R44340 (Washington, DC: Congressional Research Service, January 13, 2016).

[2] Daniel Hughes, "Professors in the Colonels' World," in *Military Culture and Education*, ed. Douglas Higbee (Burlington, VT: Ashgate, 2010); Howard J. Wiarda, *Military Brass vs. Civilian Academics at the National War College: A Clash of Cultures* (Plymouth, United Kingdom: Lexington Books, 2011).

[3] Thomas E. Ricks, "Need Budget Cuts? We Probably Can Start by Shutting the Air War College," *Foreign Policy*, April 22, 2011, available at <http://foreignpolicy.com/2011/04/11/need-budget-cuts-we-probably-can-start-by-shutting-the-air-war-college/>.

[4] George Reed, "The Pen and the Sword," *Joint Force Quarterly* 72 (1st Quarter 2014), available at <http://ndupress.ndu.edu/Portals/68/Documents/jfq/jfq-72/jfq-72_14-20_Reed.pdf>; Nicholas Murray, "Officer Education: What Lessons Does the French Defeat in 1871 Have for the U.S. Army Today?" *Small Wars Journal*, January 14, 2014, available at <http://smallwarsjournal.com/printpdf/13670>.

[5] Christopher J. Lamb and Brittany Porro, "Next Steps for Transforming Education at National Defense University," *Joint Force Quarterly* 76 (1st Quarter 2015), available at <http://ndupress.ndu.edu/JFQ/Joint-Force-Quarterly-76/Article/577587/next-steps-for-transforming-education-at-national-defense-university/>; Harry Foster and Jeffrey Donnithorne, "Hey Tom, We've Made a Whole Bunch of Changes Here at Air University," *Foreign Policy*, March 19, 2015, available at <http://foreignpolicy.com/2015/03/19/hey-tom-weve-made-a-whole-buch-of-changes-down-here-at-the-air-university/>; Anthony Cuccolo and Lance Betros, "Strengthening PME at the Senior Level: The Case of the Army War College," *Joint Force Quarterly* 74 (3rd Quarter 2014), available at <http://ndupress.ndu.edu/JFQ/Joint-Force-Quarterly-74/Article/577528/strengthening-pme-at-the-senior-level-the-case-of-the-us-army-war-college/>. See comments cited in Joan Johnson-Freese, "A Comment on 'Does Keeping PME Relevant Mean Fixing Faculty First?'" U.S. Naval Institute blog, August 23, 2011, available at <http://blog.usni.org/2011/08/23/a-comment-on-does-keeping-pme-relevant-mean-fixing-faculty-first>.

[6] Such an assessment was suggested previously in Kevin P. Kelley and Joan Johnson-Freese, "Rethinking Professional Military Education," Foreign Policy Research Institute E-Notes, October 25, 2013, available at <www.fpri.org/article/2013/10/rethinking-professional-military-education/>.

[7] New England Association of Schools and Colleges, "About Accreditation," available at <www.neasc.org/about-accreditation>.

[8] See Carol Kerr, "Army's Top Leader Addresses Army War College Class of 2015," *Army Community Banner*, September 8, 2014, available at <www.carlisle.army.mil/banner/article.cfm?id=3641>; and James E. Foehl, "Naval War College Forges Future Leaders, Graduates Joint Service Students," U.S. Naval War College Web site, November 2013, available at <www.usnwc.edu/About/News/November-2013/Naval-War-College-Forges-Future-Leaders,-Graduates.aspx>.

[9] The suggestion to consider civilian institution–type rankings was raised in Joan Johnson-Freese and Anthony J. Ruoti, "When I Hear PME Types Use the Word 'Rigor,' I Gotta Throw the Bullshit Flag," *Foreign Policy*, September 10, 2015, available at <http://foreignpolicy.com/2015/09/10/when-i-hear-pme-types-use-the-word-rigor-i-gotta-throw-the-bullshit-flag/>. This article expands on points raised in this post.

[10] Robert Morse, "How U.S. News Calculated the 2017 Best Graduate Schools Rankings," *U.S. News and World Report*, March 15, 2016, available at <www.usnews.com/education/best-graduate-schools/articles/how-us-news-calculated-the-rankings>.

[11] Nicholas Murray, "The Role of Professional Military Education in Mission Command," *Joint Force Quarterly* 72 (1st Quarter 2014), available at <http://ndupress.ndu.edu/Portals/68/Documents/jfq/jfq-72/jfq-72_10-13_Murray.pdf>.

[12] See, for example, Harvard University's Master of Public Policy program, available at <www.hks.harvard.edu/degrees/masters/mpp/curriculum>; and Columbia University's Master of Business Arts program, available at <www8.gsb.columbia.edu>.

[13] "The First Innovation of Force 2025 and Beyond," Army University brief, April 21, 2015, available at <www.health.mil/ReferenceCenter/Presentations/2015/05/12/Army-University-Briefing>.

[14] U.S. Army Combined Arms Center Web site, available at <http://usacac.army.mil/organizations/cace/cgsc/mission>; and Walter E. Carter, Jr., "U.S. Naval War College: More Relevant than Ever," Joint Base McGuire-Dix-Lakehurst Web site, January 8, 2014, available at <www.jointbasemdl.af.mil/news/story.asp?id=123376038>.

[15] Air University Catalog: Academic Year 2006–2007, available at <www.au.af.mil/au/cf/au_catalog/au_catalog.pdf>.

[16] Air University Faculty Handbook 2008, available at <www.au.af.mil/au/faculty_handbook/AU_Faculty_Handbook-2008.pdf>.

[17] Cuccolo and Betros; Charles E. Wilhelm et al., *U.S. Marine Corps Officer Professional Military Education 2006 Study and Findings* (Quantico, VA: Marine Corps University, 2006), available at <www.mcu.usmc.mil/SACS1/PME/U.S.%20Marine%20Corps%20Officer%20Professional%20Military%20Education%202006%20Study%20and%20Findings%20(Wilhelm%20Study).pdf>.

[18] Reed.

[19] Joan Johnson-Freese, Ellen Haring, and Marybeth Ulrich, "The Counterproductive 'Sea of Sameness' in PME," *Joint Force Quarterly* 74 (3rd Quarter 2014), available at <http://ndupress.ndu.edu/JFQ/Joint-Force-Quarterly-74/Article/577529/the-counterproductive-sea-of-sameness-in-pme/>.

[20] Council of Graduate Schools, "Master's Completion Project," available at <www.cgsnet.org/masters-completion-project>.

[21] Joan Johnson-Freese, *Educating America's Military* (London: Routledge, 2013).

[22] According to Fox News, the annual cost of training an Air Force fighter pilot is $6 million. See Jennifer Griffin, "Air Force, Facing Fighter Pilot Shortage, Offers Retention Bonuses of up to $225,000," Fox News, July 26, 2013, available at <www.foxnews.com/politics/2013/07/26/air-force-facing-fighter-pilot-shortage-offers-retention-bonuses-up-to-225000/>.

[23] Delece Smith-Barrow, "U.S. News Releases 2017 Best Graduate Schools Rankings," *U.S. News and World Report*, March 16, 2016, available at <www.usnews.com/education/best-graduate-schools/articles/us-news-ranks-best-graduate-schools>.

A-10A Thunderbolt II aircraft flies over target area during Operation *Desert Storm* (U.S. Air Force/Fernando Serna)

The Urgent Necessity to Reverse Service AirLand Roles

By Price T. Bingham

Current U.S. military joint and Service doctrine assigns U.S. Army forces, supported by U.S. Air Force forces, the role of being responsible for defeating an opposing mechanized army. But now, thanks to significant advances that have been occurring over the last two-and-a-half decades in the Air Force's surface surveillance and precision attack capabilities, it is time to reverse these roles.[1] Role reversal is an urgent necessity because it would give the Armed Forces the ability to defeat an opposing mechanized army faster with far less risk to U.S. personnel, while significantly reducing the amount of resources the United States needs to devote to countering this threat. Understanding why reversing roles can provide these important advantages requires examining the continuing validity of prevailing assumptions regarding Service roles in defeating such a threat. This examination begins by identifying the rationale behind today's Army force structure.

The Army's current force structure can be traced to the way great captains and effective armies have learned to use rapid movement to create important advantages over their opponents.[2] Exploiting the advantages that rapid movement can create despite advances in

Lieutenant Colonel Price T. Bingham, USAF (Ret.), is a former Combat Fighter Pilot, Aviation Expert, and frequent commentator on Air Force and joint issues.

firepower explains why, during the 20th century, mechanization transformed the way armies were structured and fought. This transformation made it necessary for armies to be able to fight and defeat an opposing army's mechanized forces in close combat because, despite often massive efforts, air forces performing interdiction were unable to prevent powerful opposing forces from coming into close proximity to army forces, especially if that movement took place at night or during bad weather. Prevailing in close combat made it necessary for the U.S. Army's armored units to become heavier and equipped with ever more powerful weapons, while also requiring that the U.S. Air Force devote significant assets to the close air support mission.

Serious limitations in the ability of airmen to detect, track, and precisely target an opposing army's vehicles explains why, historically, air forces have been limited to playing an important, but supporting, role in defeating an opposing army. These limitations explain why the reversal of roles between air and surface forces occurred first in naval warfare. In naval warfare, the relatively smooth surface of the sea made it somewhat easy for airmen in the 1940s to find an opponent's ships with their unaided vision well before these ships could move into close proximity of U.S. naval surface forces. For example, during the Battle of Midway, Lieutenant Commander C. Wade McClusky, Jr., flying at 20,000 feet and approximately 140 miles from his own carrier, visually spotted the wakes of the Japanese fleet, which included the 812-foot-long *Kaga* aircraft carrier, while he was still 35 miles away.[3] Once they found the Japanese carriers, U.S. naval air forces were able to deliver the munitions needed to complete their destruction. Ultimately, the loss of their four carriers convinced the Japanese naval leaders that they could no longer risk engaging the U.S. fleet in close combat with their main force's battleships. The effectiveness of air forces against naval surface forces during World War II was also greatly enhanced by the development of airborne radar, which made it possible for airmen to find and sink ships even at night and in bad weather.[4] It is important to note that the ability of air forces to find and destroy an opponent's surface naval forces before they could move into close proximity to U.S. ships was made easier because of the relatively small number of ships in an opposing fleet and the large size of many of these ships.

Although airpower's role in defeating armies was far more limited in the past than it was in defeating naval surface forces, there are two key similarities that help explain why there is a need now to reverse U.S. Air Force and Army roles. One similarity is that, like navies with their dependence on ships, mechanized armies depend on their vehicles for the movement that creates the operational- and tactical-level advantages of surprise, mass, and favorable position, which enhance their ability to prevail in close combat. Mechanized armies are also similar to navies and their ships in their dependence on vehicles for armored protection, heavy firepower, engineering support, and, most importantly, for supplies, especially fuel.

Yet despite these similarities, there were major differences between naval and land warfare that explain why, until recently, a reversal of roles between the Air Force and Army was not appropriate. Compared to the relatively smooth surface of the sea, the land's surface is far more complex because of its roughness and the presence of vegetation and buildings.[5] This complexity prevented airmen from using radar to find opposing vehicles because radar energy reflected from the land's surface created so much clutter that, until recently, it was impossible to see small objects like vehicles, especially when they were moving.

The complexity of the land's surface also made it much more difficult for airmen to see an opposing army's vehicles. The challenges of the visual search for opposing army vehicles were addressed by Royal Air Force Air Vice Marshal John Robert Walker. In addition to the problems posed by terrain roughness, vegetation, and buildings, he explained that there just is not much to see with a target like a 22-foot-long tank even at ranges of 3 kilometers. He stated that holding the head of a pin at arm's length gives an idea of the difficulty aircrew faced in visually acquiring a target as small as a tank.[6] Adding to this target acquisition problem was the near impossibility of determining visually from a fast-flying aircraft whether a vehicle had already been destroyed or was a decoy.

Airspeed and altitude also had an important impact on limiting the effectiveness of an airman's visual search for an army's vehicles. Although flying at slow airspeeds could provide more time to look, it also increased the amount of time air defenses had to hit the aircraft making the search. Similarly, while flying at low altitudes made it easier to see small objects such as vehicles, it greatly increased aircraft exposure to short-range surface-based air defenses.[7] The impact slow airspeeds and low altitude had on increasing an aircraft's vulnerability to surface-based air defenses explains why, in the Southeast Asia conflict, fast movers, such as the F-100F "Misty" forward air controllers (FACs), replaced slower O-1 and O-2 FACs in high-threat areas.[8]

Given a pilot's limited field of view, it was necessary to fly a great many sorties to have a reasonable chance of finding an army's vehicles within a large search area, and this reliance on vision limited the search to good weather and often only to daylight hours. Opposing armies were quick to recognize that bad weather and darkness seriously degraded the ability of airmen to find and attack their vehicles. For example, by limiting their movement to the hours of darkness or to bad weather during Operation *Diadem* in Italy, the Germans were able to shift major units from one sector of the front to another despite harassment by a daily average of 2,000 Allied sorties.[9]

Recognition of the difficulties weather and darkness created for a visual search also does much to explain the timing of the German offensive known as the Battle of the Bulge. However, when the maneuver or threat of such maneuver by friendly army forces prevented an opposing army from limiting their movement to periods of bad weather or darkness, as was the case for the German army during the Allies' Normandy breakout, it became

U.S. Navy F-14A Tomcat, Fighter Squadron 211, Naval Air Station Oceana, Virginia Beach, Virginia, in flight over burning Kuwaiti oil wells during Operation *Desert Storm* (U.S. Air Force)

much easier for airmen to find and attack vehicles as they attempted to move. Still another challenge that severely limited the effectiveness of air interdiction in stopping the movement of an opposing army was the low probability of hitting and destroying or seriously damaging such small targets with cannon fire, dumb bombs, and unguided rockets, especially if the vehicles were moving.[10]

All these considerations help explain why airmen performing interdiction would often focus their attacks on fixed transportation infrastructure such as bridges and tunnels, the destruction or damage of which might stop or at least delay vehicular movement. But since the importance of such infrastructure was also apparent to the opponent, these targets were often well defended, and opposing forces would prepare countermeasures such as bypasses or mass the resources needed to make rapid repairs. All these countermeasures help explain why the United States, despite thousands of sorties, had limited effectiveness in the interdiction of North Vietnamese forces moving on the Ho Chi Minh Trail.[11]

But in Operation *Desert Storm* in 1991, and more recently in Operation *Iraqi Freedom*, the Air Force began fielding the capabilities that are needed to change the way we defeat an opposing mechanized army. The deployment of two prototype E-8A Joint Surveillance Target Attack Radar Systems (JSTARS) during *Desert Storm* revealed that surface surveillance technology was now making it possible to detect and target vehicular movement deep in enemy territory, even when this movement was taking place during darkness. During a night attack on Khafji, Saudi Arabia, by two Iraqi divisions, JSTARS made it possible for coalition leaders to see that the developing attack was not a feint and to target powerful air attacks against the Iraqi divisions well before most of their units could move into close proximity to coalition ground forces. These attacks were so devastating that an Iraqi veteran of the Iran-Iraq war stated that his brigade suffered more losses in 15 minutes of air attacks north of Khafji than it had

endured in 10 years of the Iran-Iraq war.[12] JSTARS targeting was also proving to be a powerful force multiplier because, as JSTARS commander Colonel George K. Muellner put it, "With JSTARS, fighters went 'bingo [empty] ammo,' not 'bingo fuel,'" which had not been the case when they had to search for their own targets.[13]

After their defeat at Khafji, in what the Iraqis had planned to be the "Mother of All Battles," the Iraqis put increased emphasis on minimizing movement and dispersing their forces and digging in to reduce their vulnerability to air attack for the remainder of the war. These measures prevented training and limited resupply, causing Iraqi soldiers to see the growing futility of their situation.[14] And when precision air attacks using laser-guided bombs began soon after the battle, the Iraqi soldiers' sense of futility increased as they realized that even when their vehicles were dispersed and dug in, they were vulnerable to sudden, lethal precision attacks. Recognizing their increased vulnerability, many Iraqi soldiers moved away from their vehicles, which limited training and maintenance and made their forces extremely vulnerable to defeat when coalition land forces began their offensive.[15] After the war, Colonel Aleksandr Tsalko, a Soviet army officer who also served as a deputy to the Supreme Soviet of the Union of Soviet Socialist Republics, recognized the growing capability of modern airpower against ground forces and called the idea of seeking victory in the future through the contact between large-scale ground forces as "sheer madness."[16]

Operation *Iraqi Freedom* provided further evidence that advances in surveillance and precision air attack were making land forces far more vulnerable to detection and destruction by air attacks. In *Iraqi Freedom*, 9 of the 116th Air Control Wing's 15 E-8C JSTARS aircraft were available and made a tremendous difference. With the *Desert Storm* model of protracted bombing before committing land forces to an offensive having been rejected, the U.S. Army's 3rd Division had slowed its advance during a sandstorm to wait for its follow-on unit, the 101st Airborne Division, as well as for supplies. Believing that this storm provided cover from air attack, the Iraqis moved their Medina Division south to attack the 3rd Division. But by breaking cover and moving, the Iraqis made it possible for JSTARS to detect the division's vehicles and target them with air attacks, delivering hundreds of precision-guided weapons—predominantly satellite-guided—as well as "dumb" bombs, causing the Medina Division's destruction before it could close with the 3rd Division. As Air Force Brigadier General Allen Peck put it, "Ground forces forced the enemy's hand. If they massed, airpower could kill them, if they scattered they would get cut through by the ground forces."[17]

Yet despite the abundant evidence from these recent conflicts of our growing capability to reverse the roles of air and land forces when fighting mechanized land forces, Service and joint doctrine remains stuck in the past. For example, joint doctrine's guidance that air interdiction should be employed in support of land force maneuver reveals the U.S. military is failing to make the changes necessary to capitalize fully on our new capabilities.[18] This failure stands in stark contrast to the dramatic changes that the Navy began making before and completed during World War II, reversing the roles of air and surface naval forces in defeating an opposing fleet.[19]

Reversing roles and making Air Force forces our primary means for attacking and defeating an opposing mechanized army would provide the United States with a number of extremely important advantages. These advantages are the result of unprecedented advances in the ability of Air Force surface surveillance systems to detect, track, target, and destroy an army's moving vehicles well before they can reach a position in close proximity to friendly land forces. One important advantage from precisely targeting an opponent's vehicles when they are moving is that it eliminates the possibility of wasting precious time and resources attacking previously destroyed vehicles or decoys. Of even greater importance, targeting moving vehicles guarantees that these vehicles are occupied by an opponent's soldiers. Killing or wounding these soldiers makes it possible to create such fear in other soldiers that they are likely to become unwilling to risk movement or even occupy their vehicles.[20] With careful planning, the prompt execution of attacks against moving vehicles is likely to create the degree of fear sufficient to cause paralysis while targeting and destroying a relatively small number of vehicles. This approach is in contrast to *Desert Storm*, where the Army emphasized the importance of air attacks, causing physical attrition while grossly underestimating the importance of the psychological impact air attacks had on Iraqi soldiers.[21]

Using fear to help create paralysis not only reduces the numbers of opposing army personnel killed, but it also allows the desired results to be achieved much faster and with far fewer sorties and munitions than could be achieved by relying solely on attrition. Yet another operational advantage provided by radar surface surveillance capabilities that can detect, track, and target vehicular movement is the ability to provide precise, real-time assessment of the degree to which attacks are achieving the desired paralysis. And when widespread paralysis of opposing mechanized forces has been achieved, U.S. Army forces will possess the immense operational advantage of dominant maneuver that makes it possible for them to quickly complete the defeat of the opposing forces with far less need for engaging powerful opposing mechanized units in high-risk close combat.[22]

Despite the growing effectiveness of Air Force forces against mechanized forces, Army forces would still be needed to play a valuable supporting role in achieving the defeat of an opposing army. By exploiting the importance movement plays in land operations, Army maneuver could make an opposing army's forces even more vulnerable to defeat by air attack.[23] In their supporting role, U.S. Army forces would use maneuver to put opposing land forces on the horns of a dilemma that has no satisfactory answer. The opposing army's dilemma is this: If it attempts to counter the Army's maneuver

by moving, it makes its vehicles far more vulnerable to detection and destruction by air attack, but if it attempts to reduce its risks from air attack by not moving, it will be unable to effectively counter Army maneuver while providing even more time for its vehicles to be located and destroyed by precision air attack.

Perfecting the ideas outlined here for exploiting the advantages made possible by reversing the roles of the Air Force and Army in the AirLand fight and turning these ideas into joint and Service doctrine will require applying lessons gained from intensive wargaming and exercises, just as was the case with the Navy's reversal of roles between its air and surface forces. And, as was the case with the Navy, reversing roles will depend on making major changes in the force structure of the two Services. Unfortunately, all the Services have a history of their senior leaders resisting major force structure changes brought about by advances in technology, despite these changes providing the promise of making our Armed Forces more effective. This resistance occurred even when the changes being made were confined to a single Service rather than requiring actions by two or more Services.[24] For example, the Navy's senior leaders' identification with their battleships made many of them slow to recognize the growing ability of aircraft carriers to change naval warfare.[25] Similarly, many of the Army's senior leaders were slow to recognize that advances in firepower were causing the horse cavalry to lose its effectiveness.[26] And some senior Airmen's attachment to manned bombers made it difficult for them to recognize the growing capabilities of ballistic missiles.[27]

The changes the Air Force must make in order to assume the primary role in defeating an opposing mechanized army begin with its surface surveillance force structure. Changes in this force structure are necessary because detecting and destroying an opposing army's vehicles well before they can move into close proximity to U.S. Army forces depends on the employment of highly capable Ground Moving Target Indicator (GMTI) radar surveillance. Continuous and complete coverage of all areas where opposing forces can move by wide-area, real-time, all- weather GMTI radar systems such as JSTARS is central to reversing roles. As a result, these systems cannot be fielded in the small numbers that currently make them such a high-demand but low-density capability. And recognizing that screening can limit what can be seen by JSTARS, their employment must be complemented by fielding sufficient numbers of other GMTI-capable systems such as Global Hawk, which can ensure all movement screened from JSTARS coverage will still be detected and tracked. In addition to significantly increasing its surface surveillance force structure, the Air Force must horizontally integrate its capabilities so that sensors, air and space operations centers, targeting systems, and shooters can seamlessly communicate with each other, eliminating time-consuming, error-prone manual translations by humans.[28] Since causing paralysis will require the prompt destruction of opposing vehicles whenever they attempt to move, it will be necessary to field sufficient numbers of shooters equipped with moving target–capable munitions in order to saturate their coverage of a large area. And given the importance of endurance for achieving the desired degree of shooter–target area saturation, it is likely that many of these aircraft should be unmanned aerial vehicles like the MQ-9 Reaper. But force structure alone will not be enough. It is also vital that the Air Force learn from Operation *Desert Storm* and focus far more attention on the operational level of war and conceptualize how to employ airpower in a campaign against ground forces.[29]

Once the Air Force makes the necessary changes in its force structure and doctrine, changes in Army force structure could be made. In its supporting role, the Army would need fewer and lighter vehicles. Lighter vehicles would be more easily transportable by air, to include by vertical lift.[30] Not only would lighter vehicles make it possible for Army forces to reach a distant theater quickly, but enabling their vertical lift could also give Army forces a major operational and tactical advantage by allowing units to leap over obstacles such as rivers and mountains, reducing their need for engineering support while making their maneuver much faster as well as far less predictable. As with the Air Force forces, Army forces will need to be horizontally integrated so their employment complements that of the Air Force while reducing the risk of fratricide. To make opposing army forces move so they could be more easily detected, targeted, and destroyed by Air Force forces while minimizing the risk of close combat with intact units, Army maneuver would need to be rapid and unpredictable. It is also quite likely that during a campaign's initial stages, this maneuver would be designed to tempt opposing forces to advance into areas where they could be more easily trapped and destroyed.

Despite the tremendous advantages possible with a reversal of roles, this change is very likely to be strongly resisted by the leaders of both the Army and Air Force. The Army's reluctance is easier to anticipate because of the great implications for its force structure and, perhaps most importantly, because of the dominant role the Army currently plays in planning and executing AirLand fight. Its unwillingness to accept the need for these changes is likely to be magnified by the failure of many Soldiers to appreciate fully the growing contribution modern airpower has made to the defeat of opposing armies.[31] This lack of appreciation is evident in the way some Soldiers have criticized support provided by Airmen while simultaneously ignoring the favorable comments made by opposing soldiers regarding U.S. airpower's effectiveness.[32] Perhaps part of the reason for the Army's attitude toward airpower can be found in the fact that it has been over 70 years since U.S. Soldiers have suffered significant losses from air attacks. Surprisingly, despite the criticism made by Soldiers, Airmen have been reluctant to criticize the Army even when the decisions made by Soldiers were responsible for seriously handicapping the Air Force's effectiveness.[33]

Compared to the Army, the lack of interest Air Force leaders have exhibited in reversing roles in the AirLand fight is

Marines climb side of berm into attack positions during Operation *Desert Storm* (U.S. Marines/R.J. Engbrecht)

much more puzzling, especially when compared to naval airmen, who actively worked to reverse naval airpower's supporting role to the battleship in the years before World War II.[34] Perhaps RAND analyst Carl Builder's assessment of the Air Force was correct. He believed the Air Force could be said to worship at the altar of technology with pride of association with a machine, even before the institution. He noted an institutional resistance to the introduction of new weapons. Perhaps we see it today with JSTARS. The Air Force's focus on aircraft, especially the aerodynamic performance of aircraft, seemed to him to be its main priority along with its institutional independence.[35] If so, this would explain why the Air Force has paid so little attention to the importance of military theory, which shows why the new capabilities possessed by an "old" non–aerodynamically exciting platform such as E-8C JSTARS provides the potential to transform the way the United States conducts the joint AirLand fight. The Air Force's slowness in recognizing the unprecedented advantages of the capabilities provided by JSTARS has been evident in how often the lessons from one operation on how to use JSTARS most effectively had to be relearned during the next operation.[36]

Still another great obstacle to a reversal of AirLand roles can be found in the way jointness seems to work in today's U.S. military. Despite the major advances in airpower's ability to detect and destroy an opposing army's vehicles, which has been demonstrated in Libya and now against the Islamic State of Iraq and the Levant, all the Services have shown a lack of interest in exploring an operational concept that would require a reversal of roles. Part of the problem may be the tendency, especially in the Army, to focus on the tactical level of war and the close fight, rather than on the operational level of war, where the role of wide-area surveillance-targeting air interdiction would be most evident.[37] It may also be because of an informal agreement among the Services to do nothing that would upset their current way of doing business, even at the cost of harming long-term military effectiveness and efficiency. Again, Builder faults all the Services when he notes that "when alternative concepts of war (or how to fight those wars) begin to affect the institution—its organization and aspirations—then its intellectual energies quickly become focused upon a competition for stature and survival."[38] If true, it would be a devastating indictment of our current military leadership, making it essential that the Nation's civilian leaders intervene, as they did with the Goldwater-Nichols Department of Defense Reorganization Act of 1986, to make the U.S. military much more unified and effective.[39]

U.S. Air Force RQ-4 Global Hawk aircraft maintenance technicians perform preflight checks prior to mission, November 2010 (U.S. Air Force/Andy M. Kin)

The obstacle inter-Service politics poses to changing Service AirLand roles should be apparent to all concerned with national security. According to one expert, inter-Service politics undermines the popular theory that jointness has successfully integrated the four Services into an almost unified fighting force. He calls for the Services to "more openly acknowledge their parochial concerns and either argue that their parochial perspective better achieves U.S. national security objectives than others' perspectives or abandon them." The issue is so important that he believes "the Secretary of Defense should consider inter-Service politics the primary problem facing U.S. defense and look to weed out its clouding of policy choices. And the President and Congress should consider whether structural reform is needed to change the bargaining advantages that create today's inter-Service politics."[40]

It is important to conclude on a note of optimism regarding the possibility of the Air Force at last advocating the need for a reversal of roles by calling attention to what was stated by key leaders at a recent airpower symposium hosted by RAND and the Air Force Association's Mitchell Institute for Aerospace Studies. Lieutenant General Steven Kwast, commander of Air University, stated that as the Air Force continues to shrink, it was urgent for Airmen to find new ways to solve old problems. As Retired Lieutenant General David A. Deptula, dean of the Mitchell Institute, put it, "The concepts of the last century will simply be eclipsed in the information age," and all Airmen must be empowered to think critically on how to solve current and future challenges.[41] JFQ

Notes

[1] A top priority for the Air Force is to recapitalize the E-8 JSTARS fleet, which possesses the ability to track moving targets through weather over a wide area, and proved to be invaluable in Iraq and Afghanistan, with a business-jet–size aircraft with equal or even greater capability than the E-8. See Amy Butler, "More for Less," *Aviation Week & Space Technology,* September 15, 2014, 42–46. The 250-pound Small Diameter Bomb successfully completed tests using its tri-mode seeker that proved its ability to achieve direct hits against both stationary and moving targets through weather or dust. See "SDB II Moves into Low-Rate Initial Production," *Air Force Magazine,* November 2014, 25.

[2] The horse, chariot, railroad, and, most recently, the internal combustion engine have all caused revolutionary changes in land warfare by enhancing the ability of armies to move quickly. See John Keegan, *A History of Warfare* (New York: Alfred A. Knopf, 1993). Armies were most effective when their objective in moving was the mind and will of their opponents, using the speed of their movement to create disorder and paralysis. See Richard Simpkin, *Race to the Swift: Thoughts on Twenty-First Century Warfare* (London: Brassey's Ltd., 1985); and Field Marshal Lord Carver, *The Apostles of Mobility: The Theory and Practice of Armoured Warfare* (New York: Holmes & Meier Publishers, Inc., 1979), 77. Even in Vietnam the mobility and firepower advantages provided by armor were evident in the fact that armor units were among the last units withdrawn. In December 1971, 54 percent of the U.S. maneuver battalions still in Vietnam were armored units. See Donn A. Starry, *Mounted Combat in Vietnam* (Washington, DC: Department of the Army, 1978), 164–165. After World War I, when reforming

the German army, General Hans von Seeckt's great contribution was thinking of a "war of movement." See Robert M. Citino, *Quest for Decisive Victory: From Stalemate to Blitzkrieg in Europe, 1899–1940* (Lawrence: University Press of Kansas, 2002), 195.

[3] Jonathan B. Parshall and Anthony P. Tully, *Shattered Sword: The Untold Story of the Battle of Midway* (Washington, DC: Potomac Books, Inc., 2005), 217.

[4] In July 1944, Admiral Towers decided to designate the light carrier USS *Independence* as a night carrier. Soon the Navy was equipped with night-capable aircraft such as the TBM Avenger, whose ASD-1 radar could see a flattop at 40 miles. See Clark G. Reynolds, *The Fast Carriers: The Forging of an Air Navy* (New York: McGraw-Hill Book Company, 1968), 229.

[5] For an excellent discussion of the complexity of ground, see Simpkin, 57–77.

[6] J.R. Walker, *Air-to-Ground Operations* (London: Brassey's Ltd., 1987), 109.

[7] British Operational Research examining the armed reconnaissance mission, which required fighter-bomber pilots to fly low to look for German vehicles, found it to be more dangerous than close air support. See Ian Gooderson, *Air Power at the Battlefront: Allied Close Air Support in Europe 1943–45* (London: Frank Cass Publishers, 1998), 201–209.

[8] William W. Momyer, *Airpower in Three Wars* (Washington, DC: Department of the Air Force, 1978), 326.

[9] Eduard Mark, *Aerial Interdiction: Air Power and the Land Battle in Three American Wars* (Washington, DC: Center for Air Force History, 1994), 208.

[10] The average Typhoon pilot in trials, firing all eight rockets in a salvo against a target the size of a tank, had roughly a 4 percent chance of a hit, and in combat the accuracy was further reduced. Average radial error for bombs was 158 yards. See Gooderson, 76–77.

[11] Trucks moving on the roads of Steel Tiger in southern Laos were considered the most lucrative and vulnerable targets because the road system was too redundant and easily repaired to be a good target. See Mark, 335. During Operation *Desert Storm* the Iraqis demonstrated similar skill in countering attacks on transportation infrastructure. After the conflict, General Chuck Horner cautioned, "Anybody that does a campaign against transportation systems [had] better beware! It looks deceivingly easy. It is a tough nut to crack. [The Iraqis] were very ingenious and industrious in repairing them and bypassing them. . . . I have never seen so many pontoon bridges. [When] the canals near Basra [were bombed], they just filled them in with dirt and drove across the dirt." See Thomas A. Keaney and Eliot A. Cohen, *Revolution in Warfare? Air Power in the Persian Gulf* (Annapolis, MD: Naval Institute Press, 1995), 82–83.

[12] Williamson Murray, *Air War in the Persian Gulf* (Baltimore, MD: The Nautical & Aviation Publishing Company of America, 1995), 253.

[13] Richard P. Hallion, *Storm Over Iraq: Air Power and the Gulf War* (Washington, DC: Smithsonian Institution Press, 1992), 220, 245.

[14] For in-depth treatment of this attack see Price T. Bingham, *The Battle of Al Khafji and the Future of Surveillance Precision Strike* (Arlington, VA: Aerospace Education Foundation, 1997).

[15] Keaney and Cohen, 18, 132.

[16] Hallion, 261.

[17] William M. Arkin, "Fliers Rose to Occasion—Speed Kills," *Los Angeles Times,* June 1, 2003.

[18] Joint doctrine never mentions the need for or ability to achieve vehicular paralysis. While it states that interdiction and maneuver should normally be integrated to create dilemmas for the enemy and that interdiction attacks can produce a psychological impact that could significantly reduce enemy capabilities and morale, it does not provide any guidance for how this psychological impact could be achieved. See Joint Publication 3-03, *Joint Interdiction* (Washington, DC: The Joint Staff, October 14, 2011), vii, xi, I-3, and I-5.

[19] While some commanders gave naval aviators more latitude in fleet exercises before the war, the battleship remained supreme with aviation playing a supporting role. In 1940 the General Board freed the aircraft carriers from the battleships, although the Battle Force—not carriers—remained the "core" of the fleet. The damage inflicted by the Japanese at Pearl Harbor shifted the burden of the Pacific War to aircraft carriers, and the superiority of the aircraft carrier became more clear as the war progressed. Even so, as late as 1943, Admiral Harry Yarnell's "Report on Aviation" noted the anger of aviators over the continued suppression of naval aviation by non-aviators. See William M. McBride, *Technological Change and the United States Navy, 1865–1945* (Baltimore: The Johns Hopkins University Press, 2000), 200–210.

[20] Examination of conflicts shows that the psychological effect of fear caused by air operations can be more important that the physical destruction inflicted. See Stephen T. Hosmer, *Psychological Effects of U.S. Air Operations in Four Wars 1941–1991: Lessons for U.S. Commanders* (Santa Monica, CA: RAND, 1996). During Operation *Desert Storm*, air interdiction succeeded in destroying the confidence of Iraqi soldiers in their equipment, which they saw as a magnet for air attacks. As a result, much of their equipment remaining intact when the ground offensive began was abandoned or at least unoccupied when reached by advancing Coalition ground forces. See Keaney and Cohen, 103–104. Operational Research ground surveys in World War II conducted by the British found that fighter-bomber attacks against the German armor did not destroy many tanks because they could not be relied on to hit the target. However, these attacks were effective because of the disruption and morale effect. According to General Heinrich von Vietinghoff, the presence of Allied fighter-bombers paralyzed all German movement. See Gooderson, 212, 321.

[21] Perry D. Jamieson, *Lucrative Targets: The U.S. Air Force in the Kuwaiti Theater of Operations* (Washington, DC: Air Force History and Museums Program, 2001), 118, 136.

[22] Field Marshal Erwin Rommel commented on the impact Allied airpower had on his operations in Normandy, writing that "during the day, practically our entire traffic—on roads, tracks and open country—is pinned down by powerful fighter-bomber and bomber formations with the result that the movement of our troops on the battlefield is almost completely paralyzed, while the enemy can maneuver freely." See B.H. Liddell Hart, ed., *The Rommel Papers* (New York: Harcourt, Brace and Company, 1953), 476–477.

[23] As A-10 pilot First Lieutenant John Marks, who with Captain Eric Salomonson destroyed 23 Iraqi tanks with Maverick missiles, explained, regarding Phase IV of the Gulf War, "It was exactly what he had hoped, that the Army advance would do exactly what it did, that is, force the Republican Guard out of their prepared positions, out in the open and onto the roads." See Jamieson, 164.

[24] In the past the relationship between doctrine and force structure has caused the Services to neglect some important technological breakthroughs. This is because the formulation of doctrine is often used to justify a Service's attempt to obtain or maintain exclusive control over certain roles and missions. Since criticism of doctrine results in undermining the case the Service has made for certain roles and missions, such criticism is discouraged and breakthroughs in technology that might bring established doctrine into question are often ignored. See Perry M. 19 Smith, "The Role of Doctrine," *American Defense Policy*, vol. 3 (Baltimore: The Johns Hopkins University Press, 1973), 422–430.

[25] On the eve of World War II, many naval leaders and experts like naval analyst Bernard Brodie doubted the ability of the aircraft carrier to replace the battleship and revolutionize naval warfare. See Clark G. Reynolds, *The Fast Carriers: The Forging of an Air Navy* (New York: McGraw-Hill Book Company, 1968), 20–21.

[26] In October 1938, Major General John K. Herr, chief of the cavalry, stated that "he was unwilling to give up a single horse or man from the horse cavalry in order to organize any mechanized units." He asserted that "for a considerable period of time [mechanization was] . . . bound to play an important but minor role while the horse cavalry plays the major role so far as our country is concerned." See David E. Johnson, *Fast Tanks and Heavy Bombers: Innovation in the U.S. Army, 1917–1945* (Ithaca, NY: Cornell University Press, 1998), 136–137.

[27] Commenting on the Air Force's negative approach to long-range ballistic missiles in the early 1950s, Trevor Gardner, Secretary of the Air Force Harold Talbott's special assistant with responsibility for the Air Force missile program, thought that "the situation would continue unless some strong, external influence forced a change." See Edmund Beard, *Developing the ICBM: A Study in Bureaucratic Politics* (New York: Columbia University Press, 1976), 154–155.

[28] In April 2002, General John P. Jumper made an impassioned plea for this kind of integration. He compared what he wanted to how the Air Force performed air-to-air combat, saying, "The sum of all wisdom is a cursor over the target." See Raymond A. Shulstad, "Cursor on Target: Inspiring Innovation to Revolutionize Air Force Command and Control," *Air and Space Power Journal*, Winter 2011, 21.

[29] During Operation *Desert Storm*, air planners in the Black Hole focused on a strategic campaign against the Iraqi heartland, but there is no evidence of "an effort to conceptualize an operational-level air campaign against Iraqi ground forces . . . [the planners] responsible for the KTO [Kuwait theater of operations] simply threw air power up against an enemy sheltered in well-dug-in positions." See Murray, 320.

[30] A key performance requirement of the Sikorsky CH-53K heavy-lift helicopter, which was rolled out formally on May 5, 2014, is the ability to lift a 27,000-pound external payload 110 nautical miles in high/hot conditions (3,000 feet/91.5°F). See Graham Warwick, "Heavier Lifter," *Aviation Week & Space Technology,* May 5, 2014, 45.

[31] The official Army account of the Gulf War gives the Army the main role in defeating the Iraqi army, stating that "as part of the Coalition, the American Army decisively defeated the fourth largest field army in the world. It did so at the lowest cost in human life ever recorded for a conflict of such magnitude." While it recognizes that air forces "so dominated the air that enemy ground units were largely prohibited from maneuvering and only dared to move at night or in bad weather," it also found airpower lacking. It notes that "despite 41 days of almost continuous aerial bombardment, the Republican Guard remained a cohesive and viable military force able to fight a vicious battle and survive to stop it from responding to the Great Wheel, or prevent it from retiring some of its elements to safety." See Robert H. Scales, Jr., *Certain Victory: The U.S. Army in the Gulf War* (Washington, DC: Brassey's, Inc., 1994), 5, 368.

[32] See Jonathan M. House, *Combined Arms Warfare in the Twentieth Century* (Lawrence: University Press of Kansas, 2001), 171–172, 271. When discussing Allied AirLand operations in Europe in 1944, the author complains that General Elwood Quesada emphasized close air support only when ground commanders were launching a major ground offensive, noting that Allied tactical air forces devoted more of their missions to interdiction. Yet he never notes that this interdiction contributed to success because it had (as German commanders noted) a devastating impact on the German army's mobility. He does mention that Allied air forces mistakenly attacked friendly ground forces throughout the war, but he does not comment on whether Army artillery might have also made the same mistake. When discussing the war against Iraqi in 1991, he writes that air planners assigned large numbers of U.S. aircraft to look for targets of opportunity with the purpose of preventing Iraqi movement in daylight because they "apparently preferred such potentially wasteful, independent operations to providing direct support to the ground forces."

[33] Even though it was the failure of the Army to coordinate with the Air Force that caused severe problems during Operation *Enduring Freedom*'s Operation *Anaconda*, Army Major General Franklin Hagenbeck publicly criticized the Air Force's performance, noting its slow response in the crisis. See Rebecca Grant, "Stacked Up Over Anaconda," *Air Force Magazine* (March 2012), 58–62. The first year of the Korean conflict also provides a number of examples of decisions by Soldiers that severely limited the effectiveness of the Air Force. General Douglas MacArthur's staff, which consisted almost entirely of Army officers, often made critical decisions without first asking for Air Force input—for example, on August 13, 1950, directing that the entire B-29 force be diverted from interdiction to carpet bomb a suspected enemy "concentration" when the size of the target area was 26 square miles, not the 3 square miles the Air Force recommended. Post-attack reconnaissance revealed no evidence of enemy activity in the area bombed. See Robert Frank Futrell, *The United States Air Force in Korea, 1950–1953* (New York: Duell, Sloan, and Pearce, 1961), 130–131. After Inchon, the decision made by U.S. Soldiers to dedicate all airlift to the supply of advancing United Nations (UN) ground forces greatly delayed the deployment of Air Force fighters and Mosquito Forward Air Control aircraft to forward bases. When Chinese units ambushed UN forces, the distance between our air bases and the hard-pressed Army units seriously handicapped the Air Force's effectiveness because it significantly reduced the number of sorties that could be flown, lowered aircraft payloads, and increased the time it took these aircraft to reach the target. See HQ Fifth Air Force Memo for Record, "Meeting on Airlift to Pyongyang," HRA File K168.041-1, vol. 6 (part 4), October 22, 1950. Also see Futrell, 201–203.

[34] See Clark G. Reynolds, *Admiral John H. Towers: The Struggle for Naval Air Supremacy* (Annapolis, MD: Naval Institute Press, 1991).

[35] Carl H. Builder, *The Masks of War: American Military Styles in Strategy and Analysis* (Baltimore: The Johns Hopkins University Press, 1989), 19, 23, 71.

[36] See Price T. Bingham, "The Joint STARS Challenge," *Joint Force Quarterly* 49 (2nd Quarter 2008), 64–65.

[37] Discussing an Army corps acting as a joint task force headquarters, "The first priority must be to fight the joint fight—that is, to take advantage of the synergy available from synchronized, coordinated employment capabilities from all the Services. If they fight the joint fight well, they are unlikely to face the ground combat intensity that characterizes WFX [warfighter exercises]. . . . Joint training exercises create a Service training dilemma: Good joint level training does not necessarily provide a good component training experience." See ThomasE. Ward II, "A JTF Training Dilemma: Component Rigor Joint Realism," *Joint Force Quarterly* 46 (3rd Quarter 2007), 114.

[38] Builder, 129, 151.

[39] See James R. Locher III, *Victory on the Potomac: The Goldwater-Nichols Act Unifies the Pentagon* (College Station: Texas A&M University Press, 2002).

[40] R. Russell Rumbaugh, "The Best Man for the Job? Combatant Commanders and the Politics of Jointness," *Joint Force Quarterly* 75 (4th Quarter 2014), 97.

[41] Autumn A. Arnett, "Innovating for Airpower," *Air Force Magazine* (January 2015), 18–21.

Machine gunner with Weapons Company, 1st Battalion, 1st Marine Regiment, Marine Rotational Force–Darwin prepares to provide security during Exercise Hamel at Cultana Training Area, South Australia, Australia, July 2016 (U.S. Marine Corps/Osvaldo L. Ortega III)

Center of Gravity Analysis "Down Under"

The Australian Defence Force's New Approach

By Aaron P. Jackson

Dr. Aaron P. Jackson is a Joint Operations Planning Specialist in the Joint and Operations Analysis Division of Australia's Defence Science and Technology Group. The views expressed in this article are the author's own and are not necessarily those of the Australian Department of Defence or any part thereof.

Given Australia's position as a key U.S. ally and a much smaller military power, as well as the array of cultural similarities between the two countries, it should come as no surprise that U.S. developments have regularly influenced Australian Defence Force (ADF) thinking about armed conflict.[1] Center of gravity (COG) analysis, a lynchpin of campaign and operation planning, is no exception.

The ADF has recently reviewed its equivalent to the U.S. Joint Operation Planning Process, called the Joint Military Appreciation Process (JMAP), and as a part of this review it has updated its approach to COG analysis. Ongoing Australian evaluations of the previous ADF approach to COG analysis in light of contemporary operational requirements prompted this update. The publication in the United States of

Amphibious assault vehicles carrying Company G, Battalion Landing Team 2nd Battalion, 7th Marines, 31st Marine Expeditionary Unit, charge onto Freshwater Beach during Exercise Talisman Sabre 2011, Queensland, Australia (U.S. Marines/Garry J. Welch)

several new theoretical developments subsequently constituted a key input during the development of the updated approach, although the approach itself has adapted the theory to suit Australia's national conditions and the ADF's requirements. As a result, the ADF's new approach to COG analysis constitutes an innovation in its own right. This article summarizes this new approach to COG analysis as well as elaborating its origins and the influences on its development.

COG Analysis Requirements for Today's ADF Operations

The term *center of gravity* entered Australian Army doctrine in 1992 and ADF joint doctrine in 1998.[2] The definition of COG that featured in the 1998 interim edition of JMAP doctrine remained essentially unchanged between then and the recent review: "The key characteristic, capability or locality from which a military force, nation or alliance derives its freedom of action, strength or will to fight at that level of conflict."[3] Analysis of critical vulnerabilities (CVs) was introduced at the same time as the term COG.

By the early 21st century, the ADF joint approach to COG analysis had become better developed. For example, the ADF's joint approach to COG analysis expanded in 2002 to include critical capabilities (CCs) and critical requirements (CRs).[4] Staff would first identify adversary and friendly COGs based on a broad analysis of the operational environment. Doctrinal guidance about precisely how to do this was minimal, and the process of determining COGs had a tendency to degenerate into a planning group "educated guess" (or, in some cases, to be decided based on force of personality within a planning group). Once the COG was identified, doctrine provided better guidance for the subsequent development of a "COG analysis matrix" for each COG, which broke the COG down into CCs, the CCs into CRs, and the CRs into CVs.

Later in the JMAP, courses of action were developed by arranging decisive points along one or more lines of operations that collectively led to the defeat of the adversary's COG. Although decisive points could be linked to achieving effects that were broader than defeating the adversary's COG (or protecting one's own), the need to sequence them on a line of operations running toward defeat of the adversary's COG tended to limit their focus. Furthermore, at no stage in the JMAP were planners required to determine operational objectives or the desired operational endstate. Even though they

were required to determine the joint force's mission, the positioning of defeat of the adversary's COG at the end of all lines of operation made this implicitly synonymous with achieving the desired operational endstate. This method of COG analysis and operational planning was theoretically workable and was well suited to conventional warfare scenarios.

In practice, however, conventional warfare is almost the only kind of operation that the ADF has not conducted so far this century. Since 2001 the ADF has conducted dozens of operations, including unconventional warfare and stabilization in Afghanistan and Iraq; peace enforcement in Timor Leste; peacekeeping in the Solomon Islands; truce monitoring in the Sinai and South Sudan; provision of humanitarian assistance and disaster relief throughout the Asia-Pacific; and provision of ADF assistance to domestic authorities during major natural disasters and major sporting events such as the 2006 Melbourne Commonwealth Games. In total, the ADF has conducted at least 48 different operations since 2001, most of which have been unopposed.[5] The nature of these operations has meant that COG analysis often had to be applied more flexibly than the JMAP doctrine seemed to intend (for example, by being applied to nonadversarial actors within an area of operations). That this regularly occurred is a testament to the initiative of staff officers and planners across the ADF; however, it was also a key indicator that the doctrine was ready for an update.

Beginning in 2008, a half-dozen evaluations of the ADF's application of COG analysis were published, mostly written in response to conceptual developments appearing in U.S.-based publications. These evaluations offered several recommendations about how the ADF might approach COG analysis in light of these conceptual developments, although the recommendations themselves varied significantly between publications. At one end of the spectrum, then–Lieutenant Colonel Trent Scott asserted that COG was a "flawed concept," stating that "what does invalidate the centre of gravity is the reductive hypothesis that underlies the practical application of the concept." His key concern was that COG analysis reduces complex systems to a single point of focus and subsequently leaves staff open to a confirmation bias.[6] At the other end of the spectrum, Professor Michael Evans of the Australian Defence College emphasized his view that COG analysis remains highly relevant and advocated the introduction of a U.S.-style approach to operational design into ADF doctrine as a way to modernize the force's approach to COG analysis.[7] Regardless of the variety of these conclusions, the debate itself reinforced the need for an evolution of the ADF's doctrinal approach to COG analysis.

The Existential Question

The recent review of the JMAP commenced in accordance with the ADF's joint doctrine review cycle, which stipulates that all publications should be reviewed every 3 to 5 years.[8] The first question facing the ADF was whether to keep COG analysis in doctrine at all. This question was relatively easy to answer. All of the major stakeholders in the JMAP doctrine publication wanted the concept retained (these stakeholders included operational-level headquarters and professional military education institutions). Indeed, this aspect of the review showed that culturally, the ADF—the army in particular—is wedded to the COG concept to the extent that removing it from doctrine altogether would have resulted in insurmountable "sales resistance" to the point where the revised iteration of JMAP doctrine likely would not have been applied.[9] As a result, COG analysis remains prominent within ADF joint doctrine.

The Methodological Question

The second issue facing the ADF was more difficult: What form should COG analysis take, and where should it be positioned within the planning process? When the review of the doctrine commenced, recent theoretical development of COG analysis had already led to pedagogical changes at the Australian Command and Staff College. Fortunately, this theoretical work was also available to assist in the development of the doctrine, as was comprehensive data about Australia's recent operations. The final decision about how to fit COG analysis within the JMAP resulted from a thorough evaluation of ADF operational requirements and the theoretical literature, supported by extensive consultation with key stakeholders.[10]

The result of the review was twofold. First, the role of COG analysis relative to other components of the JMAP was altered. Second, there was an update to COG analysis itself, including key definitions and the method used to determine COG.

Regarding the relative position of COG analysis to the other components of the JMAP, the COG analysis methodology included in the new edition of the JMAP doctrine states that defeating the adversary's COG could be explicitly linked to either a decisive point, an operational objective or the desired operational endstate (determining the desired operational endstate and constituent operational objectives are now explicit components of the JMAP).[11] This means that defeating an adversary's COG is no longer implicitly linked to achieving the desired operational endstate—although the option to make this link remains available in the revised methodology, so that there will be no problems applying COG analysis to conventional operations or training scenarios in the same manner as it was applied in the previous iteration of the JMAP.

In other types of operations, the flexibility of the revised JMAP allows the defeat of an adversary's COG to be linked to only one of several operational objectives or to one or more decisive points along a single line of operations. This has resulted in the new edition of the JMAP doctrine more closely mirroring recent practice. Furthermore, the new edition of the JMAP doctrine also establishes that in unopposed operations, a COG analysis may be completed for a nonadversarial threat that would prevent mission accomplishment if not adequately addressed. Ultimately, in this revised approach it is up to the commander to determine how to approach COG analysis for any particular

Table. New Definitions of Center of Gravity and Related Critical Factors

Term	Definition
Center of gravity	The primary entity that possesses the inherent capability to achieve an objective or the desired end state.
Critical capabilities	An action (verb) done by the center of gravity that enables it to achieve an objective or the desired end state.
Critical requirements	A thing (noun), resource, or means that is essential for a critical capability to enable a center of gravity to function.
Critical vulnerabilities	Those critical requirements, or components thereof, that are inherently targetable and vulnerable to neutralization, defeat, or destruction in a way that will contribute to undermining a center of gravity.

Source: Australian Defence Force Publication 5.0.1, *Joint Military Appreciation Process*, 2nd ed., Amendment List 1 (Canberra: Defence Publishing Service, February 25, 2016).

operation. This approach had previously been common *in practice*, but had not been addressed in previous editions of the JMAP doctrine. The new doctrinal flexibility regarding the relative position of COG analysis within the JMAP therefore means that the doctrine is now able to provide guidance for the commander and staff regardless of the commander's chosen operational approach.

The second result of the doctrine review, the update to COG analysis, had two aspects. One of these was definitional and the other structural. A decision to revise the definition of COG was made due to the very broad "catchall" nature of the previous definition, which was sufficiently open as to allow almost anything to be deemed a COG. In addition to wanting a narrower definition that could be more easily linked to either an operational objective or the desired operational endstate, it was decided to limit the interpretation of a COG to something tangible at the operational and tactical levels. Eliminating intangible COGs such as "will to fight" or "force projection" has resulted in a more prominent focus on capabilities (such as those that can achieve force projection), making the link between the COG and its CVs more explicit and resulting in targeting lists more directly connected to undermining the adversary's COG.

The revised definitions supporting this new approach to COG analysis were determined following a thorough evaluation of the methodologies proposed within the recent theoretical discourse. The table shows the ADF's new definitions of COG and related CCs, CRs, and CVs. In deriving these definitions, theoretical works published by Dale C. Eikmeier, Joseph L. Strange, and Richard Iron were particularly influential, albeit that the approaches to COG analysis advocated by these theorists were modified to be simpler and more strongly interlinked before the final ADF definitions were determined.[12] Despite their origins in theoretical papers, it must be noted that these definitional changes were only implemented as the result of stakeholder suggestions about how the doctrine could best address their operational and instructional needs.

The structural aspect of the change to COG analysis involved an amendment to the way in which the COG and the related CCs, CRs, and CVs are determined. Here, Jan L. Rueschhoff and Jonathan P. Dunne's approach to identifying COG "from the inside out" shaped the doctrine's recommended methodology for conducting COG analysis starting with the identification of CC and then "working left and right" to determine the COG as well as the other critical factors.[13] Such a tool for deriving COG was not included at all in the previous edition of the JMAP doctrine; hence, its inclusion within the new edition constitutes one of the most significant methodological changes therein. Because this approach results in staff first identifying tangible capabilities and then deriving the COG by linking these to the ability to achieve an operational objective or desired operational endstate, it greatly eliminates the educated guess factor from the process of determining COG.

The ADF first incorporated COG analysis into its joint doctrine in 1998, and the concept has been broadly useful as a component of ADF joint operations planning. Since 1998, the ADF methodology for conducting COG analysis, as well as its definition of COG and related terminology, underwent only minor changes until the recent review of the ADF's JMAP doctrine. In light of stakeholder requirements and operational lessons, supported by theoretical development of the concept, it was determined during this review that the ADF approach to COG analysis required revision, which was undertaken accordingly. The result is an updated approach to COG analysis that is well suited to contemporary joint operations. No operational concept or idea exists in a vacuum, however, and it is therefore expected that at an appropriate point in the future, the ADF approach to COG analysis will again be revised in response to the conditions of the day. Until then, an approach to COG analysis that reflects the most up-to-date thinking available has postured the ADF for continued operational success. JFQ

Notes

[1] The similar positions and common grouping of the United States and Australia on the Inglehart-Welzel Cultural Map is a key indicator of the cultural similarities between them. See World Values Survey Database, "Findings and Insights," undated (but including data from 2014), available at <www.worldvaluessurvey.org/WVSContents.jsp>.

[2] Michael Evans, *Forward from the Past: The Development of Australian Army Doctrine 1972–Present* (Canberra: Australian Army Land Warfare Studies Centre, 1999), 43; Australian Defence Force (ADF), *Joint Military Appreciation Process* [JMAP]*: A Guide to Planning at the Operational Level: Interim Edition* (Canberra: Defence Publishing and Visual Communications, 1998).

[3] ADF, glossary.

[4] The ADF's original definitions of the terms *critical vulnerabilities*, *critical capabilities*, and *critical requirements* are not important for the purposes of this article. The ADF's new (that is, current) definitions are listed in table 1.

[5] John Blaxland, *The Australian Army from Whitlam to Howard* (Melbourne: Cambridge University Press, 2014), 374–377.

U.S. Marines move toward objective during Exercise Hamel at Cultana Training Area, South Australia, Australia, July 2016 (U.S. Marine Corps/Mandaline Hatch)

[6] Trent Scott, *The Lost Operational Art: Invigorating Campaigning into the Australian Defence Force* (Canberra: Land Warfare Studies Centre, February 2011), 41–45.

[7] Michael Evans, "Centre of Gravity Analysis in Joint Military Planning and Design: Implications and Recommendations for the Australian Defence Force," *Security Challenges* 8, no. 2 (Winter 2012), 81–104.

[8] The previous edition of the JMAP doctrine was published in 2009. The revised (current) edition was developed during 2014 and published in February 2015. Following assessments of the revised edition undertaken during its application, a minor amendment was published in February 2016. At the time of writing of this article (September 2016), a second minor amendment is forthcoming; however, this will not include any changes to center of gravity analysis.

[9] Christopher Bassford asserted that "sales resistance" to new doctrine is "often stimulated by overt attempts to introduce a new paradigm." In this case the opposite action, the complete removal of a familiar paradigm from the doctrine, would likely have had the same result. See Christopher Bassford, "Doctrinal Complexity: Nonlinearity in Marine Corps Doctrine," in *Maneuver Warfare Science 1998*, ed. Frank G. Hoffman and Gary Horne (Washington, DC: Department of the Navy/U.S. Marine Corps, 1998), 11.

[10] Relevant theoretical works include Dale C. Eikmeier, "Center of Gravity Analysis," *Military Review* (July/August 2004), 2–5; Celestino Perez, Jr., ed., *Addressing the Fog of COG: Perspectives on the Center of Gravity in U.S. Military Doctrine* (Fort Leavenworth, KS: U.S. Army Combat Studies Institute Press, 2012); Dale C. Eikmeier, "Give Carl von Clausewitz and the Center of Gravity a Divorce," *Small Wars Journal* 9, no. 7 (July 2, 2013), available at <http://smallwarsjournal.com/jrnl/art/give-carl-von-clausewitz-and-the-center-of-gravity-a-divorce>; James P. Butler, "Godzilla Methodology: Means for Determining Center of Gravity," *Joint Force Quarterly* 72 (1st Quarter 2014), 26–30; Lawrence Freedman, "Stop Looking for the Center of Gravity," *War on the Rocks* (blog), June 2014, available at <http://warontherocks.com/2014/06/stop-looking-for-the-center-of-gravity/>. To ensure interoperability, another influential source that was thoroughly evaluated was Joint Publication (JP) 5-0, *Joint Operation Planning* (Washington, DC: The Joint Staff, August 11, 2011), which contains the latest iteration of U.S. joint doctrinal thinking on the subject.

[11] All references to JMAP doctrine and the ADF's revised approach to COG analysis made in this section of this article are to Australian Defence Force Publication (ADFP) 5.0.1, *Joint Military Appreciation Process*, 2nd ed., Amendment List 1 (Canberra: Defence Publishing Service, February 25, 2016); for COG analysis, see 3.6–3.17.

[12] Dale C. Eikmeier, "Redefining the Center of Gravity," *Joint Force Quarterly* 59 (4th Quarter 2010), 156–158; Eikmeier, "After the Divorce: Clausewitz and the Center of Gravity"; Joseph L. Strange and Richard Iron, "Center of Gravity: What Clausewitz Really Meant," *Joint Force Quarterly* 35 (October 2004), 20–27; and Joseph L. Strange and Richard Iron, "Understanding Centers of Gravity and Critical Vulnerabilities," unpublished paper, available at <www.au.af.mil/au/awc/awcgate/usmc/cog1.pdf >; and <www.au.af.mil/au/awc/awcgate/usmc/cog2.pdf>.

[13] Jan L. Rueschhoff and Jonathan P. Dunne, "Centers of Gravity from the 'Inside Out,'" *Joint Force Quarterly* 60 (1st Quarter 2011), 120–124.

F/A-18E Super Hornet, attached to Strike Fighter Squadron 31, and F/A-18F Super Hornet, attached to Strike Fighter Squadron 213, prepare to launch from flight deck of USS *George H.W. Bush* to conduct strike missions against ISIL targets, September 2014 (U.S. Navy/Robert Burck)

Hybrid Threat COG Analysis

Taking a Fresh Look at ISIL

By Michael D. Reilly

However absorbed a commander may be in the elaboration of his own thoughts, it is sometimes necessary to take the enemy into account.

WINSTON CHURCHILL

Debates continue in the media, military, and foreign policy circles about the national strategy to defeat the Islamic State of Iraq and the Levant (ISIL). Imbedded within these debates are fundamental disagreements about ISIL's strategic and operational centers of gravity. Correctly identifying the center of gravity (COG) of an adversary is critical to designing an operational approach to defeat him. On the other hand, misidentifying the center of gravity is the clearest path to defeat against any foe—especially a hybrid one. An assessment of ISIL's center of gravity is critical to developing a suitable operational design aimed at its defeat. The first order of business, however, is to determine if ISIL is a hybrid actor and, if so, how that impacts our analysis.

Lieutenant Colonel Michael D. Reilly, USMC, is an Operational Planner at U.S. Pacific Command.

There is an issue, though. Our collective reliance on traditional thinking and continued use of existing COG doctrine is particularly problematic. However, by examining hybrid warfare and expanding the definition of the *center of gravity* beyond that of "hub of all power" by the inclusion of the "modalities of principal use," commanders and planners can identify critical capabilities, requirements, and most importantly, vulnerabilities more rapidly and set U.S. operational planning on stronger footing. Simply put, a shared understanding of hybrid warfare and centers of gravity are required for a fresh analysis of ISIL.

Complexity, deception, and ambiguity are characteristics of warfare dating back to ancient times that are enjoying a renaissance due to an emerging method of conflict described as hybrid warfare. Hybrid warfare falls into an area of conflict within the gray zone of "competitive interactions among and with state and non-state actors that fall between the traditional war and peace duality."[1] The emergence of hybrid war, as demonstrated by Hezbollah in 2006, Russia in 2014, and ISIL's current activities in Iraq and Syria, creates a panoply of problems for policymakers, operational planners, and commanders due to the enigmatic nature of the threat.

Learning from Operations *Desert Storm* and *Iraqi Freedom*, challengers to U.S. power actively avoid actions likely to result in an overwhelming conventional military response. This creates a global context where the United States, as the de facto guarantor of global stability, faces increasing hybrid conflicts as state and nonstate actors develop asymmetric ways to challenge American dominance. Recognizing that hybrid warfare is far more than a subset of irregular warfare, analyst Nathan Freier developed a comprehensive description of hybrid warfare and defines it as an adversary's integration and use of at least two of the following modalities: traditional warfare, catastrophic terrorism, irregular warfare, and disruptive use of technology.[2]

Frank Hoffman builds upon Freier's concept and includes "criminality" within the disruptive modality, since criminal activities are closely intertwined in many of the current gray zone or limited war conflicts—as in the case of ISIL.[3] He defines a *hybrid threat* as "any adversary that simultaneously employs a tailored mix of conventional weapons, irregular tactics, terrorism, and criminal behavior in the same time and battlespace to obtain their political objectives."[4] A state or nonstate entity capable of fully integrating these operational-level modalities into a viable and unified course of action across the political, military, economic, social, information, and infrastructure (PMESII) spectrum has a significant advantage over an adversary still approaching warfare from a traditional, irregular, or compound perspective. The blending of multiple, unified, and integrated modalities, void of traditional military customs or norms, makes hybrid war distinct from other types of warfare and makes assessing an adversary's COG so difficult.

The following definition of a hybrid threat is proposed to gain shared understanding and a framework for analyzing ISIL:

Any adversary that creates a dilemma across the PMESII spectrum by simultaneously employing a tailored mix of traditional warfare and weapons, irregular warfare, catastrophic terrorist actions, and disruptive and/or criminal behavior in the same time and battlespace to obtain political objectives within operational or political limitations.

Freier's four modalities framework—with the inclusion of criminality alongside the disruptive challenge—is used in this article as the construct to analyze hybrid threats. While every conceivable scenario may not fit comfortably into these modalities, this hybrid threat methodology adequately captures the ways and means required at the operational level to accomplish the desired ends for the majority of opponents U.S. forces will confront in the 21st century.

Hybrid threats, according to Freier, are the Defense Department's "new 'wicked problems' where precise identification of what is most harmful or important is problematic" and "the true depth, complexity, and impact of these hazards lies un- or under-recognized until attempts to contend with them are well underway."[5] By their very nature, hybrid threats, like ISIL, are highly integrated, amorphous, and difficult to analyze. As such, identifying a single unit, force, person, or ideology as the center of gravity is potentially dangerous and misleading. Likewise, identifying a hybrid threat's critical vulnerabilities is extremely difficult as there is no single source of strength to defeat and no silver bullet powerful enough to neutralize the critical capabilities inherent within a hybrid adversary. The real danger in applying traditional COG analysis to hybrid threats is that it misleads senior leaders into believing that operations against hybrid adversaries will be shorter, less costly, and less risky than is probably the case.

The COG constructs currently used in doctrine and practice either fall short of providing a useful method for discerning a hybrid threat's center of gravity or omit the concept entirely. This increases the probability of responding too slowly to effectively counter the threat or misidentifying the center of gravity and taking inappropriate actions based upon legacy definitions intended for a traditional interstate construct that may not apply to hybrid adversaries.

Before proposing a new method of analysis, debilitating problems in current approaches must be understood and accepted. In this article, current perspectives on COG analysis are examined with an eye toward determining if those constructs adequately support the analysis of a hybrid threat adversary. This article then recommends an updated method for analysis specific to understanding hybrid threat actors and applies this method to ISIL as it is considered an example of a hybrid threat actor with clear effects on potential future conflicts. Freier calls these asymmetrical conflicts the "hybrid norm" of the future,[6] while Russell Glenn adds it is critical that military professionals not allow themselves to become myopic in their vision of future threats and see each new conflict as the same as the last, since U.S. and coalition forces are more likely to face hybrid threats in future conflicts.[7]

COG Discussion

Current translations of Carl von Clausewitz's *On War* describe the center of gravity as the "hub of all power and movement, on which everything depends."[8] Clausewitz approached warfare from the perspective of nation-states using organized violence in a battle of wills, where the ultimate objective was the enemy's submission through the destruction of its military forces. But do the current interpretations and applications of Clausewitz's concept hold true for hybrid threats that may not seek decisive battle?

Joint doctrine defines a *center of gravity* as "the source of power that provides moral or physical strength, freedom of action, or will to act."[9] The Marine Corps further describes an operational-level center of gravity as "normally an element of the enemy's armed forces" that is the "most dangerous to us or the one that stands between us and the accomplishment of our strategic mission."[10] These definitions provide the doctrinal baseline for threat analysis, but may not fully apply to hybrid threats. The four scholars who stand out as the most useful and comprehensive in their understanding of center-of-gravity analysis, and who are briefly discussed here, are Joe Strange, Dale Eikmeier, Milan Vego, and Antulio Echevarria.

Dr. Strange wrote extensively about COG analysis with an eye to assisting military planners through a logical construct commonly referred to as the "Strange Method." He defines a center of gravity as the "moral or physical strength, power, and resistance." Revolutionary at the time, Strange developed his now famous CG-CC-CR-CV construct that forms the basis of joint doctrine, to assist planners in identifying the center of gravity (CG) along with its critical capabilities (CCs), its critical requirements (CRs), and its potential critical vulnerabilities (CVs).[11]

Colonel Eikmeier argued that the COG concept is useless if it cannot be readily understood and applied in a real-world planning situation. He defined the center of gravity as "the 'primary doer' with the capability required to achieve the objective."[12] Understanding that an enemy's center of gravity may be elusive, Eikemeier built upon Strange's CG-CC-CR-CV model to include an assessment of the threat's strategic and operational objectives. This addition assists planners in understanding the critical capabilities required to meet those objectives and points more accurately to the center of gravity (the "doer") that inherently has those capabilities to accomplish that objective.[13]

Professor Vego argued that "the concept of center of gravity is perhaps the most critical element of operational and strategic warfare. No plan for a campaign or major operation can be executed quickly and decisively without identifying enemy and friendly COGs and properly applying combat power to degrade, destroy, neutralize or protect them."[14] He defines a center of gravity as "that source of leverage or massed strength—physical or moral—whose serious degradation, dislocation, neutralization or destruction will have the most decisive impact on the enemy's or one's own ability to accomplish a given military objective," and one that can be associated with all three levels of warfare.[15]

Colonel Echevarria identified the center of gravity as the (centripetal) force, or focal point that holds the various entities together.[16] He argues that the COG concept was originally aimed at achieving the total collapse of the adversary's forces and is only applicable for absolute (or total) war where the destruction of the enemy's force is the primary goal. This distinctively Clausewitzean point of view holds true to the essence of *On War*, where each side seeks an advantage against the other in a decisive battle. Echeverria does not advocate the partitioning of centers of gravity at the strategic, operational, or tactical levels, and argues that these are modern artificial constructs and not how Clausewitz viewed warfare.[17] He concludes that the COG concept is not applicable to the array of limited wars (under which hybrid war usually falls) since the concept of attacking the center of gravity often comes in conflict with limited political objectives and rarely results in the total collapse of the enemy's forces through a decisive battle.[18]

As demonstrated, there is currently no adequate model or methodology to determine a hybrid threat's center of gravity. The current definitions and methods fail to account for the multimodalities, ambiguity, and political constraints presented by hybrid threats. Joint Publication 2-01.3, *Joint Intelligence Preparation of the Operating Environment*, does not mention hybrid threats or discuss the use of multiple modalities.[19] In the case of a hybrid threat, the center of gravity may not be the traditional source of greatest strength, power, or resistance described by the current definitions. In practice, a single moral or physical source of strength may not exist due to the blending of capabilities and resources required in constructing a hybrid force. This raises an interesting conundrum for planners: what if the center of gravity of a hybrid threat adversary is not his source of greatest strength, power, or resistance? Is the COG concept still relevant to these types of threats?

Eikmeier postulates a theory that could radically change how COG analysis is understood and practiced. Eikmeier also argues that Clausewitz's *On War* was mistranslated by Michael Howard and Peter Paret, resulting in the current understanding of Clausewitz's idea being slightly, but significantly, wrong. He assesses that the "hub of all power" description of the center of gravity is not Clausewitzean; rather it is the product of Howard and Paret's translation. Eikmeier argues that this mistranslation fosters a crucial misunderstanding as Clausewitz never actually uses the term *center of gravity* in German—*gravitationspunkt*. Rather, Clausewitz uses the German word *schwerpunkt* (usually translated as the *center of gravity*), which literally means the weight of focus or point of effort. In practice, Clausewitz may have been describing what is currently identified in doctrine as the "main effort." This makes sense as Clausewitz was most concerned with the decisive battle and defeating the enemy's main effort was the surest way to win the contest of wills.

Doctrinally, the main effort is established to "attain the primary objective of a major operation or campaign."[20] This

Soldiers assigned to Charlie Battery, 1st Battalion, 320th Field Artillery Regiment, 2nd Brigade Combat Team, 101st Airborne Division, fire M777 A2 Howitzer in support of Operation *Inherent Resolve* at Platoon Assembly Area 14, Iraq, November 2016 (U.S. Army/Christopher Brecht)

is consistent with this article's definition of a center of gravity as the actor's main effort to achieve its operational-level objectives and is simpler to understand and easier to put into practice than the "hub of all power" metaphor. Following this logic, the real task in COG analysis is identifying the enemy's operational main effort, not necessarily its greatest source of strength.[21] This definition opens the aperture on COG analysis at the operational level, is applicable to hybrid threat scenarios, and acknowledges that the center of gravity can shift as the situation develops, thus forcing periodic reassessment and, if necessary, reframing of the problem.

In the case of hybrid war, the center of gravity may not be the source of great power, strength, and resistance, or the focal point because the use of a particular force may negate the identified political objectives, provoke the full application of U.S. military might, or cause unacceptable second- and third-order effects—like the loss of international support. Clausewitz's concept is still applicable, but the doctrinal definitions and methods for analysis are less useful for analyzing a hybrid threat. Rather, faced with a hybrid threat, planners require an updated method.

Applying a New COG Method to ISIL

An analytical method for hybrid threat COG analysis is proposed here that takes into account the amorphous and agile nature of hybrid threat adversaries. In a hybrid war scenario, identifying the hybrid threat's operational level center of gravity as the "modality of principal use" enables planners and commanders to develop operational approaches and designs to quickly and effectively defeat threats, like ISIL, before they escalate to the point where later adaptation is unacceptably costly in blood and treasure.

The six-step analytical process proposed below is intended for use against hybrid threats, but can be successfully used as a general theory for threat analysis. Correctly identifying the center of gravity is critical because, as Vego writes, "operational COGs are linked to both strategic and operational objectives; operational goals and COGs establish the foundation for the selection of tactical objectives."[22] Those acquainted with the Strange and Eikmeier method will note many similarities. This is purposeful as the primary goal is to provide operational planners with a more intuitive method for COG analysis that they can apply quickly and effectively in operational design and the joint operation planning process.

Secretary Kerry closes his speech book after addressing delegates in Human Rights Chamber at United Nations Palais des Nations, following bilateral meeting with Russian Foreign Minister Sergey Lavrov, Geneva Switzerland, March 2, 2015 (State Department)

Step 1: Identify Observed Modalities. The most important step is identifying the modalities employed by the adversary. During this step, every observed enemy action is categorized into one of the four hybrid modalities: traditional, catastrophic terrorism, irregular, or disruptive technology/criminal activities. Operational planners must pay particular attention to their commander's indications and warnings constructs and priority intelligence requirements as they drive the intelligence collection efforts and greatly influence what enemy action is observed and reported. If information gaps are identified, they must be filled in a timely manner to ensure that threat modalities are observed and identified.

ISIL displays attributes of all four hybrid modalities. First, ISIL displays the traditional modality through its fielded military and militia forces. These forces execute traditional military operations with modern weapons systems against traditional armies (Iraqi and Syrian armed forces) and local militias. ISIL fighters typically wear uniforms, deploy in units, and employ rudimentary combined arms offensive operations. They also defend the ground they have taken with prepared defensive positions. Second, ISIL displays the irregular modality through its use of shadow governments, highly visible terrorist operations, killings of Sunni and Shia "apostates," and Internet-based recruiting. This modality solidifies its rule in captured areas, frightens potential adversaries, attracts foreign recruits, and increases its stature on the world stage. Third, ISIL displays the disruptive/criminal modality through its vast network of illicit oil trafficking and sales, illegal bulk cash transfers through charities and individuals, stolen foreign aid, kidnapping operations, taxes, and illegal checkpoints. Fourth, ISIL appears to have acquired or produced chemical weapons and may have the intent to use these weapons. If true, this displays a catastrophic terrorism modality that could be used against vulnerable, high-profile targets.

ISIL's extensive information operations (IO) contribute to all four modalities in much the same manner that IO supports multiple lines of effort in joint doctrine. Also, there is considerable overlap between the traditional and irregular modalities as well as the irregular and criminal modalities. Most importantly, ISIL acts very much like a nation-state even though it is a nonstate rogue actor.

Step 2: Identify Adversary's Assessed Objectives and Limitations—Ends. As the modalities of the threat's operation are discovered and identified, an assessment must be made as to the threat's desired ends, military objectives, and limitations. This assessment must be made in a timely manner to inform decisionmakers and it is critical that planners continuously review and revalidate this assessment as it bears great importance for the correct identification of the center of gravity. Planners must determine the political endstate, the military objectives at the operational level of war, and any limitations (military or political) likely imposed on the forces conducting the actions. This assessment is a critical step as the adversary's desired ends and objectives relate directly to the ways and means required to accomplish those objectives.

Strategically, ISIL espouses the creation of the historical Islamic caliphate. Operationally, ISIL's objectives are to seize the territory required to build the caliphate, establish the economic infrastructure to fund it, build an army to expand it, and terrorize all those who oppose them. They appear to have no political or operational limitations that inhibit their ability to seek their objectives through the use of unrestricted warfare.

Step 3: Identify the Critical Capabilities—Ways. Planners must identify the ways or actions required (or critical) in achieving the desired ends. In keeping with both Strange and Eikmeier, a CC is always an action. CCs are usually noted as an "ability to" perform a certain activity critical to the success of the operation. If multiple CCs are required to accomplish the desired ends, then these should be prioritized in order of necessity. If possible, capabilities should be narrowed down to the fewest number of critical capabilities.

ISIL's strategic CC is the ability to foster international Sunni patronage while keeping the United States from directly confronting its forces on the ground in Iraq and Syria. Its ideological call for a decisive battle to take place in western Syria against Western forces is one of the methods used to keep the United States at bay.

This apocalyptic vision of a grand battle between Islam and the West, coupled with U.S. political limitations, appears to be effective in deterring the United States from committing general

purpose forces to this conflict. U.S. political and strategic guidance places limits on American action and may in effect deter the United States from committing general purposes forces to this conflict. Politically, the United States will not directly support the Bashar al-Asad regime in its fight against ISIL. Strategically, after the long conflicts in Afghanistan and Iraq, the United States seems loath to engage in any long-term stability operations.[23] ISIL leaders know that the current American administration has no appetite for another protracted ground campaign in the Middle East.

Operationally, there are four CCs required to accomplish ISIL's operational objectives. First, it requires the ability to defeat regional challengers and seize terrain. Second, it must have the ability to govern the areas seized. Third, it must have the ability to self-sustain and generate income. Fourth, it must have the ability to recruit, train, and employ forces.

Step 4: Identify the COG—Modality of Principal Use. Once the employed modalities are identified, the adversary's objectives and limitations assessed, and the required capabilities to accomplish these objectives revealed, a determination is made as to which modality (irregular, traditional, catastrophic, or disruptive/criminal) is the enemy's main effort to accomplish those objectives. The modality that possesses the required CCs to accomplish the desired objectives within the identified limitations is now identified as the enemy's center of gravity. It becomes the principal "doer of the action that achieves the ends."[24] This is a critical assessment as the subsequent approach and follow-on actions should be designed to attack the center of gravity identified as the modality of principal use since this is the enemy's main effort.

The center of gravity should be the modality that the adversary employs as the main effort to accomplish the operational objectives within the identified or assessed operational limitations.[25] For a hybrid force, the modality of principal use provides a type of cohesion for the employed forces to bind. This cohesion of forces, under a principal modality, allows the main effort to deliver the most effective blows and is consistent with a Clausewitzean view of the center of gravity.[26]

The highly integrated nature of hybrid warfare makes the delineation between the modality of principal use and the supporting modalities difficult to make. This inherent fusion of modes provides the hybrid actor with the capability to shift main efforts should the situation dictate, depending on its own capabilities, the type of adversary, the political objectives, and self-imposed limitations. Similar to a conventional force shifting main efforts in response to the conditions on the ground, the hybrid threat could potentially shift main efforts as part of the plan or in response to friendly actions. However, changing the main effort at the operational level is no easy task and may provide an opportunity to seize the initiative from the hybrid foe. Additionally, the political objectives or limitations may reduce the flexibility of the hybrid force to shift the main effort and dictate which modality must be prioritized to accomplish the objectives.

Determining ISIL's center of gravity through the traditional methods is difficult and potentially irrelevant. Indeed, applying doctrinal COG analysis to ISIL likely results in various "mirages" that look "good in theory, but rarely exists in the real world in a way useful for military planners."[27] In reality, ISIL has no single source of physical or moral power; it is an integrated network of networks with no single, critical node. It is a truly hybrid threat. But that does not mean that it is indestructible or undefeatable.

ISIL contains all four modalities within its hybrid nature, but one modality stands out as its main effort: the traditional. This modality is ISIL's center of gravity to accomplish its operational objectives and create the caliphate. Its real source of power lies in its state-like military forces arrayed on the battlefield engaged in the seizure or defense of terrain, not in its ideology or other moral factors. This is an important distinction as many identify it as a terrorist organization when it is better described as a pseudo-state.

Step 5: Identify the Critical Requirements—Means. Once the center of gravity—the modality of principal use—is determined, all of the other means and modalities identified are categorized as critical requirements. As Strange notes, these are actual things—nouns—required for the critical capabilities to be fully operative. Similar to current doctrine, this should be a list of the other noted modalities, resources, units, or other means required to execute the CCs such as trained guerrilla forces or a flexible command and control network.

The remaining three modalities, along with all the resources and means contained in the traditional modality, are identified as CRs. Two CRs that must be addressed are ISIL's senior leadership and its ideology. Once located, senior leadership must be killed or captured as they have ordered and carried out barbarous terrorist actions. This is critical to weakening its fielded forces' loyalty and ability to coordinate operations, and there is no place for these leaders in the post-ISIL society. Secondly, ISIL's Salafist jihadist ideology is not the center of gravity; rather, it is a CR necessary for the recruiting and sustainment of the group's stated purposes. Efforts are being made to neutralize the Islamic State's ideological message with counter-messaging, but this is proving ineffective. Defeat on the battlefield is often the best counter-narrative to the jihadist's message.

Step 6: Identify the Critical Vulnerabilities. Some of these CRs (or subsets of CRs) are vulnerable to attack, deficient in some way or not strong enough to defend themselves, and are identified as critical vulnerabilities (CV). Because they are critical, any interdiction, destruction, or neutralization should have a direct or indirect effect on the ability of the center of gravity (the modality of principal use) to accomplish the desired ends. Finding a hybrid threat's CV may be difficult due to its ambiguous and enigmatic nature, and there may be few actual CVs. Planners must resist the pressure to manufacture CVs, looking for the elusive silver bullet, as this only oversells the effectiveness of the operational design.

ISIL shows few CVs, but assessing the traditional modality as its center of

gravity allows for an operational approach designed around defeating that modality as it will have the greatest impact on the group's ability to accomplish its goals. In layman's terms, ISIL is acting more like a traditional conventional force and should be treated as such. Any operational approach that addresses it as just another nonstate actor conducting irregular warfare or terrorism will fail to defeat ISIL because its very nature is more traditional than irregular. Understanding this reality provides insight into why current coalition efforts are failing to defeat it.

To defeat ISIL, coalition forces must engage in a conventional air-land campaign to destroy its uniformed military and non-uniformed militia forces and eliminate its senior leadership. This coalition should be led and manned by those with the most to win or lose in the region—Turkey, Iraq, Jordan, Saudi Arabia, and Kuwait. Only after ISIL's traditional forces are systematically destroyed and its leadership erased can the root causes of Sunni disenfranchisement and abuse by the regimes in Iraq and Syria be addressed.

Recommendations

The fundamental nature of war remains unchanged; however, the character and conduct of 21st-century warfare continues to evolve. Compared to the Clausewitzean vision of conventional interstate conflict, modern warfare is increasingly characterized by the erosion of the state's sovereignty and monopoly of violence coupled with the continuing effects of decolonialization in developing nations, the vacuum created by the fall of the Soviet Union, and the realities of a globally interconnected society. The wars of the 21st century are best described as a transnational, asymmetric mixture of globalization and radicalized tribalism, enabled by high-speed communications and modern weapons, employing ancient and barbaric tactics, sustained by criminality and foreign aid, and located in geographic areas of instability characterized by weak or failed states where poverty is endemic and the majority of the population has little to no access to the political system. These are protracted gray zone conflicts.

Commanders must demonstrate the ability to execute a coup d'oeil in recognizing the hidden truth behind today's complex, nonlinear, and opaque problems that have no simple or easily discernible solutions.[28] Confronting these complex hybrid threats places a "premium on the cognitive skills needed to recognize and quickly adapt to the unknown."[29] Rapidly and accurately identifying a hybrid threat's center of gravity is critical in mitigating or defeating the most likely type of adversary, like ISIL, that U.S. forces will meet on the 21st-century battlefield. Again, Clausewitz is prophetic and timeless in admonishing the "statesman and commander" to determine the "kind of war" waged and not fall into the trap of entering the desired war and not the real one.[30] The methodology proposed in this article could help commanders do just that. JFQ

Notes

[1] Joseph Votel, "The Gray Zone," White Paper, U.S. Special Operations Command, September 9, 2015, 1.

[2] Nathan Freier, *Strategic Competition and Resistance in the 21st Century: Irregular, Catastrophic, Traditional, and Hybrid Challenges in Context* (Carlisle Barracks, PA: Strategic Studies Institute, May 2007), 2, 18–19.

[3] Frank G. Hoffman, "Hybrid vs. Compound War: The Janus Choice," *Armed Forces Journal*, vol. 14 (October 2009).

[4] Frank G. Hoffman, "On Not-So-New Warfare: Political Warfare vs Hybrid Threats," *War on the Rocks*, July 28, 2014, available at <http://warontherocks.com/2014/07/on-not-so-new-warfare-political-warfare-vs-hybrid-threats/>.

[5] Nathan Freier, "Hybrid Threats and Challenges: Describe . . . Don't Define," *Small Wars Journal*, December 9, 2009, 7.

[6] Freier, *Strategic Competition*, 47.

[7] Russell Glenn, "Thoughts on 'Hybrid" Conflict,'" *Small Wars Journal*, February 24, 2009.

[8] Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton: Princeton University Press, 1984), 595–596.

[9] Joint Publication (JP) 5-0, *Joint Operation Planning* (Washington, DC: The Joint Staff, August 11, 2011), GL-6.

[10] Marine Corps Doctrinal Publication 1-2, *Campaigning* (Washington, DC: Headquarters United States Marine Corps, August 1, 1997), 42.

[11] Joe Strange, *Centers of Gravity and Critical Vulnerabilities: Building on the Clausewitzian Foundations So That We Can All Speak the Same Language* (Quantico, VA: Marine Corps University Press, 1996), 43.

[12] Dale C. Eikmeier, "After the Divorce: Clausewitz and the Center of Gravity," *Small Wars Journal*, March 6, 2014.

[13] Ibid.

[14] Milan Vego, "Center of Gravity," *Military Review* 80, no. 2 (March 2000), 23.

[15] Ibid., 24.

[16] Antulio J. Echevarria II, "Reining in the Center of Gravity Concept," *Air and Space Journal* 17, no. 2 (Summer 2003), 3.

[17] Ibid., 6. Echevarria does note that the current conflict with Islamic terrorism (and al Qaeda), when viewed as a "war to the death," qualifies as Total War and is the type of conflict that warrants center-of-gravity analysis.

[18] Antulio J. Echevarria II, "Clausewitz's Center of Gravity: It's Not What We Thought," *Naval War College Review* 56, no. 1 (2003).

[19] JP 2-01.3, *Joint Intelligence Preparation of the Operating Environment* (Washington, DC: The Joint Staff, June 16, 2009), II-65–II-68.

[20] JP 5-0, IV-48.

[21] Dale C Eikmeier, "Give Carl von Clausewitz and the Center of Gravity a Divorce," *Small Wars Journal*, July 2, 2013.

[22] Vego, 26.

[23] *Sustaining U.S. Global Leadership: Priorities for the 21st Century* (Washington, DC: Department of Defense, January 3, 2012), 6.

[24] Dale C. Eikmeier, "A Logical Method for Center of Gravity Analysis," *Military Review* 87, no. 5 (September 2007), 62–66.

[25] Ibid.

[26] Clausewitz, 485–486.

[27] Mark Cancian, "Centers of Gravity Are a Myth," U.S. Naval Institute *Proceedings* 124, no. 9 (September 1998), 30.

[28] Clausewitz, 102. Clausewitz described *coup d'oeil* as "the quick recognition of a truth that the mind would ordinarily miss or would perceive only after long study and reflection." Joint Advanced Warfighting School Professor Bryon Greenwald further explains coup d'oeil as "an inward eye capable of recognizing and understanding a given situation in a moment, amidst the fog (uncertainty), confusion, danger, and exhausting nature of combat."

[29] Frank G. Hoffman, "Hybrid Warfare and Challenges," *Joint Force Quarterly* 52 (1st Quarter 2009), 38.

[30] Clausewitz, 88.

Marines from Mike Battery, 4th Battalion, 14th Marines, operate 155mm M198 howitzer in support of Operation *Phantom Fury*, November 2004 (U.S. Marine Corps/Samantha L. Jones)

Toward a Future National Strategy

A Review Essay

By Joseph J. Collins

What could be more important than a nation's strategy? A strategy brings together ends, ways, and means. It assesses costs and risks and establishes priorities. It takes basic guidance and direction from national policy, but, in turn, strategy guides subordinate plans and policies. It provides a framework that can help us comprehend contextual developments, which, in turn, can reshape the strategy. A consistent strategy is also a certain trumpet for friends and allies to heed. In our messy democracy, domestic politics and bureaucratic politics will often frustrate strategy, but, in the end, national strategy retains its importance.

For the entire Cold War, we had one overarching national strategy: the containment of our principal enemy, the Soviet Union. Strategic debates on how to contain the Soviet Union were severe and constant, but the aims and framework of the strategy were widely accepted. Containment activities ranged from military operations to subtle diplomacy or foreign aid to the more than occasional covert operation. When the Cold War ended, some claimed that history (and strategy!) had ended, but others argued that the United States had to exploit its "unipolar moment" or otherwise behave, in Madeleine Albright's phrase, as the world's "indispensable nation."

The predominant national strategy that emerged has been called primacy or

Dr. Joseph J. Collins is the Director of the Center for Complex Operations, Institute for National Strategic Studies, at the National Defense University. A retired Army colonel, he was formerly Deputy Assistant Secretary of Defense for Stability Operations.

liberal hegemony. During the years of the Bill Clinton administration, this strategy featured engagement and enlargement of the number of democracies, especially in Europe. After failures in Somalia and Rwanda, the domestically focused Clinton team fought low-casualty air wars in Bosnia and Kosovo, followed by peace enforcement operations, which were followed by what came to be known as nation-building. The George W. Bush administration initially rejected nation-building and tried to focus on great power relations, but fate had another path in mind. After the 9/11 attacks, President Bush conducted a retaliatory war against al Qaeda and the Taliban government in Afghanistan, and less than 2 years later, a preventive war against Iraq, presumed to be both a supporter of international terrorism and the holder of weapons of mass destruction stockpiles and research programs. That misestimate led to a still-compounding tragedy in the Middle East.

The Barack Obama administration made it quite clear that its priorities were ending the war in Iraq and first surging and then drawing down in Afghanistan. The new President was all about exit strategies, with the accent mark on exit and less so on strategy. U.S. strategy encountered a host of new problems. Allied dissatisfaction with the Obama administration appeared to rise as overseas policy problems increased and compounded one another. Today, the United States finds itself war-weary and deficit-ridden, with much of the world dissatisfied with our leadership. We are at a strategic inflection point. What we have been doing no longer works, and the need for a new strategic course is overwhelming.

Three books have performed serious strategic critiques that range from the theoretical to the micro-analytical. Together, they have produced a set of books that should be read by the incoming national security team.

The first book is Ian Bremmer's *Superpower: Three Choices for America's Role in the World*.[1] Bremmer, the founder of the Eurasia Group and a prolific author, argues that we have become increasingly directionless and that Donald Trump should choose one of three strategies: Independent America, Moneyball America, or Indispensable America. After quizzing the readers about their views, Bremmer artfully takes a chapter to advocate for each of the strategies, later matching the readers' views to their preferences on his quiz.

Independent America, what some would call neo-isolationist America, argues that America is overextended abroad and underfunded at home. In the future, it should forget about being the leader of the free world, lead by example at home, be far less active abroad, and concentrate on improving its infrastructure and economy. This strategy option, as written, even rejects regional and global trading arrangements. For Independent America, "national security begins at home," and to protect the homeland, we have to invest in public infrastructure, border protection, and homeland defense.

Moneyball America—despite the catchy title—is actually a strategy guided by finite, prudent realism, "a cold-blooded, interest-driven approach that redefines America's role in the world in a way designed to maximize the return on the taxpayer's investment" (89). Aiming directly at both security and prosperity simultaneously, Moneyball America demands more prudent interventionary choices, a focus on vital interests, prudent negotiations, the use of sanctions, and, occasionally, leading from behind. It takes its direction on using force from the Colin Powell and Casper Weinberger doctrines. In Bremmer's formulation, this strategy emphasizes trade, especially in the Asia-Pacific region. Overall, Moneyballers argue for humility: "America is *not* an exceptional nation. America is the most powerful, but that doesn't mean that it's always right. We are not all-knowing, and the universal benefit is never our concern" (119).

Indispensable America, which takes its names from Madeleine Albright's oft-used phrase, is a strategy that is oriented on global leadership, engagement, and, where necessary, intervention. This strategy is frequently referred to as liberal hegemony or primacy. It is long-term in its perspective: "Today's globalized world of overlapping commitments, interests, and rivalries demands the kind of long-term strategic thinking that a Moneyball approach, with its focus on limited investment in limited goals for near-term results, can never produce. How many American (and global) problems are the result of short-term thinking" (137)? Advocates of Indispensable America are globally focused, activist, and oriented on both standing up to and engaging China and Russia. American values loom large in this strategy, and expanding the number and vitality of democracies around the world is also part of the approach. Bremmer's advocacy for this option concludes:

Seven U.S. presidents, Democrats and Republicans, followed their [Truman and Eisenhower's] lead. When Soviet communism finally collapsed, democracy, freedom of speech, and free-market capitalism began the next phase of their global advance. Imagine the cost to the world if America decides that the job is now finished—that Americans will no longer fight for these values (158).

Bremmer, an internationalist, surprises the reader in his last chapter when he—almost reluctantly—opts for the neo-isolationist, Independent America, with the addition of an added plank on more international trade. In the conclusion, however, he puts aside his own preferences and insists that the key thing for the Trump administration is to choose a single strategy and to follow it consistently: "The worst choice of all is to refuse to choose, because I don't believe we can continue to improvise our foreign policy. We're confusing our allies, our rivals, and the American people with an incoherent approach to an increasingly dangerous world" (191).

Bremmer's short book is earnest, clever, and appeals to a wide audience. Its laser-like focus on the elements of each of the three strategies is terrific, but the student of international affairs and the policy wonk need more detail to add meat to the strategic frameworks that he so artfully builds.

Barry Posen's *Restraint: A New Foundation for U.S. Grand Strategy* adds theoretical and practical detail to the debate over future strategy.[2] It also goes one step further than Bremmer: Posen includes a military strategy, a force structure, and a useful risk analysis. Posen is a senior professor at the Massachusetts Institute of Technology and a prolific academic writer on national security issues. His book, published in 2014, is a cousin to Bremmer's Moneyball strategy. Motivated by perceived failures such as the enlargement of the North Atlantic Treaty Organization (NATO), the war in Kosovo, and the Iraq War, Posen concludes that "the United States has grown incapable of moderating its ambitions in international politics. Since the collapse of Soviet power, it has pursued a grand strategy that can be called 'Liberal Hegemony,' which is unnecessary, counterproductive, costly, and wasteful" (xi). Posen's prescription is a strategy of restraint that is focused on realism, vital interests, and prudence.

In his tightly reasoned book, Posen is concerned with international relations theory, strategy development, and the record of current efforts to secure our national security. He takes the reader through the ascent of liberal hegemony, the rise of neoconservativism, and changes in the international system, which he maintains will further frustrate liberal hegemonists. He finds our large Armed Forces and frequent interventions overseas to be costly and ill-advised, especially in the Middle East. In many places, U.S. forces, a potential solution, can easily become a significant problem.[3] He is also tough on our "cheap riding" or "reckless driver" allies (35–44). Posen concludes that the costs of liberal hegemony have far exceeded its benefits and that the overactive strategy is "unnecessary given our strong, inherent security position" (65).

Posen argues that this wasteful, dysfunctional strategy should be replaced by a strategy of restraint that is focused on the balance of power in Eurasia, managing the threat of nuclear weapons, and "suppressing terrorist organizations that have global ambitions" (69). This would entail a reduction in "political commitments and military deployments" and transitioning many regional burdens to our allies over a decade. Posen treats every region of the globe in some detail, but in all, U.S. allies receive tough love under the strategy of restraint. For example, over time, Israel would lose its multibillion-dollar U.S. defense subsidies. Posen also concedes that some of our major allies might have to become nuclear powers in the process of reestablishing regional balances. His proposals for fighting violent terrorist movements are balanced, even if less detailed than his thoughts about major powers. (The advent of the Islamic State of Iraq and the Levant [ISIL] occurred after this book was written.)

Posen's national strategy of restraint comes with a military strategy that focuses on "command of the commons," sea, air, and space, an idea that he put forward in 2003. (He says little about cyberspace, although it could easily be adapted to his strategy.) A focus on control of the commons would reduce military personnel strength by 20 percent, and spending from around 4 percent of gross domestic product to about 2.5 percent. He would reduce all the Services, including the Navy, the keystone in his maritime strategy. Posen admits that a strategy of restraint might encourage nuclear proliferation. He wisely posits at least a decade for transitionary activities.

In my view, Posen's military strategy and force structure are risky. The military strategy relies on the good offices of allies whom we no longer would serve with on the ground. A smaller, mostly mobile offshore force would be a weaker deterrent and a reactive warfighting entity. Such a force would have less slack for multiple contingencies and carry with it an increased risk of running out of means even when pursuing limited ends. Accordingly, a markedly smaller force also carries a higher risk of defeat if it arrives too small or too late to get the job done. Today, markedly building down U.S. forces as China and Russia improve theirs may create an impression of weakness.

Posen's recommendations, however, made sense for his restraint strategy when it was written, but may need to be modified to take into consideration aggressive changes in Chinese and Russian behaviors, as well as operations against ISIL. Similarly, writing in 2012–2013, Posen might want to reconsider his argument that U.S. troops should be withdrawn on schedule from Afghanistan, "no matter what develops" (127). Posen is wary of China, but does not support suggestion by "offensive realists" to contain it or foster a "preventive cold war" (171).

The strategy of restraint is a potential alternative to liberal hegemony, selective engagement, or a "fortress America" approach. Posen's approach is consistent, well-reasoned, and comprehensive. He also has owned up to the risks inherent in changing strategies and implicitly encouraging nuclear proliferation. It is a book for the serious student of global affairs, while Bremmer's breezier tone is better suited to the general reader.

In the past few years, President Obama captured some of the spirit of the restraint strategy with little of its rigor or consistency. He has drastically reduced forces fighting in the Long War from a few hundred thousand to less than 20,000, total, in Iraq, Syria, and Afghanistan. While the inelegant "leading from behind" was never officially doctrine, Obama tried to give allies and partners greater space to exercise initiative. On his watch, however, the security situation in Iraq and Afghanistan deteriorated, the civil war in Syria turned Europe and the Middle East upside down, and ISIL, the successor to al Qaeda in Iraq, established a proto-caliphate and extended its tentacles into Asia and North Africa. As its battlefield prospects have worsened, ISIL has expanded its anti-Western terrorist operations with dedicated operatives or otherwise with Internet-inspired actors or small groups. On President Obama's watch, Libya and Yemen also fell into turmoil. The last book in this trilogy—Robert Kaufman's *Dangerous Doctrine: How Obama's Grand Strategy Weakened America*—addresses this problem set.[4]

Nuclear weapon test Dakota on Enewetak Atoll, 1956 (National Nuclear Security Administration)

Professor Kaufman is on the faculty of Pepperdine University. His book is a scholarly, conservative, and polite but powerful critique of the Obama grand strategy. He rejects notions that Obama is either a pure realist or idealist, and he asserts—like Bremmer in his advocacy for an Indispensable America—that "President Obama has imprudently abandoned the venerable tradition of muscular internationalism emblematic of Presidents Truman, Eisenhower, Kennedy, Reagan, and both Bushes" (4). He notes that Obama has turned his back on the U.S. role, in Josef Joffe's term, "as the world's default power" (4). Kaufman writes that the "Obama Doctrine" of retrenchment has the following tenets:

- Protect the world and the United States from the arrogance of American power too often justified by extravagant claims of American exceptionalism.
- Embrace multilateralism rather than unilateralism or narrow coalitions of the willing.
- Minimize the salience of regime type or ideology.
- Use force sparingly, proportionally, multilaterally, for limited goals, with limited means, and only as a last resort.
- Rely more on soft power rather than on hard power. Focus more on the danger of terrorism, nuclear proliferation generally, humanitarian concerns, and unconventional threats rather than on the imperatives of traditional geopolitics.
- Realize that the emergence of other power centers makes a substantial devolution of American responsibilities possible.
- Build bridges to engage and conciliate actual and potential rivals (10–26).

Kaufman runs this doctrine up against international relations theories and concludes that Obama's "original and largely coherent synthesis draws on multiple sources and experiences" (60). He concludes later that this synthesis "appropriates the most problematical features of these paradigms without their countervailing values" (183).

Having addressed theory, Kaufman takes the reader around the world. Kaufman argues that Obama flubbed U.S.-Russian relations and handled Putin poorly. He concludes, "President Obama fundamentally misjudged the character of Russia's increasingly nasty, authoritarian, and assertive regime, the grandiosity of Russia's swelling ambitions, and the inability of democratic Europe to counter them without strong American leadership stressing muscular deterrence rather than conciliatory engagement" (72). Kaufman finds that Obama has failed to lead our European allies or even maintain their trust. (Of late, NATO has begun to beef up its presence in Eastern Europe, but Kaufman would likely see it as too little and awfully late.)

In the Middle East and Afghanistan, Kaufman finds Team Obama focused on strategic withdrawal and not war winning. In Libya, President Obama led from behind, and despite the Arab Spring, the President gave a low priority to promoting democracy. Where he did support a democratically elected government in Egypt, he was slow to see the danger of its Islamist bent. He has cozied up to Recep Tayyip Erdoğan in Turkey and ignored his authoritarian tendencies. The security situation in Iraq deteriorated rapidly in Iraq during the Obama administration. In Afghanistan, the security situation today is even more troubled than when Obama took office. Kaufman decries the Iran deal, but some of his more dire projections have not come to pass. Finally, Team Obama delivered the Libyan people from Muammar Qadhafi's oppression into chaos. The debacle in Benghazi was in part the result of a failure to follow up a successful multilateral humanitarian intervention with effective assistance to the new government of Libya.

By the sixth chapter, the reader is not surprised to read that Kaufman believes that Obama's pivot toward Asia has been a bust. He argues, "President Obama's Asia policy has de-emphasized traditional geopolitical rivalry, elevated climate change as a priority rather than a peripheral security issue, and emphasized diplomacy rather than hard power in fashioning an Asian pivot that remains more rhetoric than reality" (145). Like

Bremmer and Posen, Kaufman is wary of China's growing power, but he emphasizes that the roots of this problem are in China's authoritarian political system. In any case, Kaufman rails against China for behaving aggressively and Obama for focusing on spreading optimism and soft power in the region. He cites influential sources that assert that the United States is losing its military edge in the region. Kaufman also notes that a "neglect of India ranks high on the list of the Obama administration's foreign policy mistakes" (178). He concludes that the Asia pivot, like the Syria red line, was typical of Obama's "words without meaning . . . commitments without follow-up, phrases without plans" (184).

In his conclusion, Kaufman returns to Josef Joffe's phrase and recommends that the United States behave as "the world's default power," strengthen its defenses, and conduct its affairs with a keen sense of regime types, that is, favoring democracies and furthering democratic values. He recommends a "grand strategy anchored in moral democratic realism" that embraces American exceptionalism and behaves with prudence as its paramount value (191–198). Needless to add, Posen and Bremmer would take issue with these conclusions. For Posen, Kaufman's strategic recommendations are the source of America's problems abroad.

Merlin the Magician could not square all the contending circles drawn by these three authors. While they all recommend strategic change, they disagree widely on that change, with Bremmer advocating an inward-looking Independent America, Posen calling for a realist strategy of restraint, and Kaufman recommending a strategy akin to primacy, which he calls moral democratic realism. Other scholars have added to the list of possible strategies: Brandeis's Robert Art, writing in 2003, rigorously evaluated various options and recommended a strategy of selective engagement, which falls between restraint and liberal hegemony.[5] Frank Hoffman of the National Defense University (NDU), a decade after Art, had his own hybrid strategy, which he called forward partnering.[6] President Trump will and should choose a single consistent yet flexible strategy, but if history is a guide, the President is not likely to follow a specific international relations theory. The result may well look like some sort of combination of the recommended strategies in these three books and the other sources mentioned, above.

What prudent strategic advice can we leave for President Trump and his national security team? First, the next U.S. strategy will not be like the Cold War's containment. It will not have a single, primary focal point. U.S. domestic needs will compete with security challenges, which will emanate from major powers, like Russia and China; revisionist regional powers, like Iran and North Korea; and transnational threats, like international terrorist movements and illicit criminal networks. The pace of change also seems to be accelerating. Strategy and the security environment are interactive. Change in one will be reflected in the other.

President Dwight Eisenhower was fond of repeating an old Army adage: plans are nothing; planning is everything. In that regard, a future strategy will have to have relatively constant objectives with the flexibility to change ways and means. Strategists will have to become masters of multi-scenario thinking.[7] Strategy will chart the course, but change will be constant and often discontinuous. Of course, there is a danger here: a strategy that changes rapidly or dysfunctionally can risk appearing feckless or confuse friend and foe alike.

Second, the next strategy should begin with an exhaustive analysis of the security environment, including challenges and opportunities. Next, it will need to have an elaborate, prioritized set of national security objectives. The hard arguments in the next national strategy development are likely to come in determining the "hows" of the strategy. Bremmer, Posen, and Kaufman's work would suggest that some of the key questions include:

- Does the United States maintain global engagement and force presence, limit its presence to a few key regions, or adopt a fully offshore posture?
- How can the United States ensure that its allies do their fair share?
- How should the United States balance its defense priorities among preparing for great power contingencies, continuing to fight terrorists, and contending with rogue regional powers?
- What role should regional and global trading arrangements play in U.S. strategy?
- What percent of U.S. national product can we afford to spend on national security, and how will we control entitlement spending and the national debt to allow for a robust defense, improvements to our crumbling infrastructure, and other validated Federal programs?

Third, with an eye to the future, strategists should also mine the past for lessons. In the past year, a team at NDU worked on the strategic lessons of the wars in Iraq and Afghanistan. The effort has borne great fruit and deserves to be replicated for other cases.[8] Henry Kissinger tells us that history teaches by analogy.[9] Strategic wisdom can come only from the knowledge of many cases and the ability to compare them contextually. International relations theory is a useful tool, but Goethe tells us in *Faust* that "all theory, my friend, is gray, but green is the golden tree of life." The danger may arise if cases are made to fit into existing theories rather than being used to refine or modify them.

Fourth, strategic analysis teaches the importance of assumptions, from the grand to the petty. Strategic assumptions must be continually tested and strategies adjusted appropriately. Opinions and assertions can also be problematic. For example, Posen, in arguing for his strategy of restraint, asserts on the first page of his book that the United States is "incapable of moderating its ambitions in international politics" (xi), but President Obama has made a serious attempt to do just that. Some, like Kaufman, might add that Team Obama has often been *too* restrained. Moreover, Bremmer and Posen both assert that NATO expansion has been dysfunctional and is a factor in

Remains of "Iron Curtain" in Czech Republic, 2014 (Courtesy Marcin Szala)

Russia's increasing aggressiveness. There are other possible explanations. Instead, Russian policy may be motivated by Putin's misguided machismo, or its historical habit of attempting to dominate its neighbors, or a desire to control its near abroad and restore territory lost at the dissolution of the Soviet Union. For my part, I could not imagine the evolution of democracies in East Europe without NATO expansion and the Partnership for Peace, which both have allowed East European militaries to evolve beyond the Soviet model. In strategic affairs, facts are often illusive or subject to complex qualifications, far beyond what will fit on a bumper sticker or a talking point. Opinions asserted as facts and sensitive assumptions will remain normal parts of the human condition, and they can inhibit progress toward improved strategy and policy.

Fifth, future strategists and policymakers will have to deal with the problem of dealing with authoritarian states and false democracies. Authoritarian regimes, such as Russia and China, are not subject to the brake of public opinion. Their leaders do not face free and fair elections where people can reward or punish bad decisions. The rule of law in such states is replaced by the rule of one person or a small group of people. Freedom of the press is sharply curtailed. The growing assertiveness of Putin and Xi Jinping add to this concern. The United States must be wary of such states, even when they temporarily act in consonance with our interests. At the same time, these three books have each given testimony to the difficulties of nation-building or attempting to export democracy. The danger of false democrats, like Egypt's Muslim Brotherhood ruler Mohamed Morsi and now Turkey's Erdoğan is yet another complicating problem.

Finally, even the best of strategies cannot be an infallible guide for a future President to make specific decisions. Often, a reasonable strategic initiative, like the Russia "reset," will fall on deaf ears, or, like the Asia pivot, be slowed by critics, distractions, or more pressing priorities. A forward-thinking President may have a fine strategy but never escape the effects of his predecessors' mistakes. For example, the legacy of the invasion of Iraq, now 13 years past, will still be a major factor in the next President's foreign policy.

The strategist will also have to leave room for chance, accidents, and luck. The greatest modern strategist, Otto von Bismarck, argued for strategic flexibility and humility when he asserted, "a Statesman . . . must wait until he hears the steps of God sounding through events, then leap up and grasp the hem of His garment."[10] Here is hoping that President Trump is listening and ready to leap. **JFQ**

Notes

[1] Ian Bremmer, *Superpower: Three Choices for America's Role in the World* (New York: Portfolio/Penguin, 2015).

[2] Barry R. Posen, *Restraint: A New Foundation for U.S. Grand Strategy* (Ithaca, NY: Cornell University Press, 2014).

[3] This theme is nicely developed in David Kilcullen, *The Accidental Guerrilla: Fighting Small Wars in the Midst of a Big One* (New York: Oxford University Press, 2009), xiii–38.

[4] Robert Kaufman, *Dangerous Doctrine: How Obama's Grand Strategy Weakened America* (Lexington: University Press of Kentucky, 2016).

[5] See Robert Art, *A Grand Strategy for America* (Ithaca, NY: Cornell University Press, 2003).

[6] Frank Hoffman, "Forward Partnership: A Sustainable American Strategy," *Orbis* (Winter 2013), 20–40. For an additional source that argues that the United States has much continuity in its grand strategy, see R.D. Hooker, Jr., *The Grand Strategy of the United States*, INSS Strategic Monograph (Washington, DC: NDU Press, October 2014).

[7] The classical text that employs multiple-scenario long-range planning is Peter Swartz, *Art of the Long View: Planning for the Future in an Uncertain World* (New York: Currency Doubleday, 1996).

[8] Richard D. Hooker, Jr., and Joseph J. Collins, eds., *Lessons Encountered: Learning from the Long War* (Washington, DC: NDU Press, 2015).

[9] Henry Kissinger, *Diplomacy* (New York: Simon & Schuster, 1994), 27.

[10] This quotation can be found at *BrainyQuote.com*, available at <www.brainyquote.com/quotes/quotes/o/ottovonbis134221.html>. A longer version is in Chas. Freeman, *The Diplomat's Dictionary* (Washington, DC: NDU Press, 1994), 361.

Afloat Forward Staging Base (Interim) USS *Ponce* conducts operational demonstration of Office of Naval Research–sponsored Laser Weapon System while deployed to Arabian Gulf, November 15, 2014 (U.S. Navy/John F. Williams)

Breaking Through with Your Breakthrough

How Science-Based Communication Can Accelerate Innovation and Technological Advantage

By Dave Nystrom and Joseph Wojtecki, Jr., with Mat Winter

Communicating naval science and technology . . . is about our responsibility to convey truth and reality for informed decisionmaking. Lessons learned detailed here are as much about good leadership as they are skills for defense innovators.

—Rear Admiral Mat Winter, USN, Chief of Naval Research

Naval technology today can trace its origins to Office of Naval Research (ONR)–sponsored research, but in order for breakthroughs to reach the fleet, ONR has a responsibility to communicate warfighting value and foster informed support for implementation. This article shares some insights from decades of innovation and offers seven communication practices that can help innovators and leaders in military science and technology, not only in the Navy but also in the other Services.

As we scan the defense landscape, we see that threats are proliferating, adversaries are closing the gap, and the pace of innovation, once set by the Department of Defense (DOD), is exposing the consequences of our bureaucracy's declining ability to keep up. While innovation of all types is needed, the kind that enables us to win wars is technology-based. The Department of the Navy has a solid record of leveraging technology for decisive capability advantage, but often it is a stressful journey, sometimes calling for extraordinary intervention. We also contend with that most inelastic of naval cultural traits, tradition, which sometimes requires heroic effort and personal sacrifice from innovators to overcome.

Consider the case of Lieutenant William Sims. In 1900, Sims introduced continuous-aim firing for naval guns using gears and telescopic sights to compensate for a ship's roll, increasing accuracy by 3,000 percent. Nevertheless, his reports were systematically ignored or rejected by the Navy's Bureau of Ordnance—citing the technology as "unnecessarily disruptive to the social order of a ship." Exasperated, Sims wrote to President Theodore Roosevelt, who in 1902 intervened to circumvent Navy bureaucracy and appointed Sims as Inspector of Target Practice, where he commissioned and tested new gunnery to instill continuous-aim technology. He persevered, retired at the rank of admiral, and was credited as the "man who taught us how to shoot."[1]

Some may recognize this case study and be struck by the parallels facing modern defense innovators. From a communication perspective, Sims assumed too much: that facts speak for themselves, that he was an effective messenger, and that data-laden technical reports would counter intractable perception-based resistance. Sims underestimated the stress his innovation placed on the status quo and how that stress impacted gaining informed support.

Today, we do not lack smart people, talent, or good ideas. The problem remains at the point of implementation; this is the point where, after the initial exuberance of discovery and early support, the reality of overcoming resistance from "late adopters and laggards,"[2] combined with scaling the bulkheads of bureaucracy, sets in. Science-based communication, however, can help defense innovators break through with options well short of letters to the President.

Stress Impacts Communication

Innovation is the adoption of a new invention, practice, or idea.[3] Therefore, increasing the success rate requires deeper understanding of how to gain informed support. This seems straightforward, but the complexities of communicating innovation, and the changes invoked, are often oversimplified. Recall moments when you were involved in a crisis, had to deliver bad news, or had to persuade others on some controversial point. The message, messenger, and method all take on crucial significance in such circumstances. Effective communication in stressful situations draws upon an understanding of science-based principles that apply to the diffusion of innovation.

One point of reference for high stress that Americans vividly remember is September 11, 2001. Enormous uncertainty prevailed as the day unfolded. Horrific images are still etched in our minds. We were fearful, angry, and grieving. Shortly after the second World Trade Center tower fell, New York mayor Rudy Giuliani held a news conference to speak to the Nation. The first question he received was anticipated: "How many are dead?" His response was powerful: "Ultimately, the number is more than we can bear." He continued to express compassion, conviction, and optimism throughout the aftermath.

Giuliani's effectiveness might have been different had he responded only with casualty statistics or succumbed to the emotion of the moment. But in fact, his comments had been developed 5 years earlier during routine crisis preparedness planning, following a proven risk communication model. Giuliani developed this plan with support from the Center for Risk Communication, a research organization addressing how people process information differently in high-stress situations. While 9/11 is the extreme, the principles apply equally to everyday work- and home-life circumstances. In naval innovation, risk communication leads us to think beyond the factual merits of new technologies to consider stakeholders' concerns, needs, and perceptions.

Naval scientific research is the responsibility of ONR. It is the incubator for Navy technology innovation, and its mission is to ensure technological warfighting advantage for the Navy and Marine Corps. ONR's job is to discover, develop, and deliver decisive capabilities—and, when necessary, challenge the status quo. This often requires top cover, as Lieutenant Sims discovered, and is why ONR is among the few agencies in the Navy established by Congress.[4] Investments made decades ago have yielded discoveries in material science, pulse power, and advanced electronics that have led to today's technologies such as electromagnetic railguns, laser cannons, and autonomous systems with true swarming capability.

In each of these examples, communication played an important role in gaining informed support for advancing

Dave Nystrom is the Organizational and Communication Strategy lead in the Office of Naval Research at the U.S. Navy. Joseph Wojtecki, Jr., is the Assistant Director at the Center for Risk Communication. Rear Admiral Mat Winter, USN, was the 25th Chief of Naval Research, and is now the Deputy Director of the Joint Strike Fighter Program.

these new technologies. We discuss each case to illustrate key communication principles (which are *italicized* in the text), six strategic communication factors, and these seven conventional wisdom traps:

- Just get the word out.
- You cannot over-communicate.
- Decide, announce, defend.
- Facts speak for themselves.
- Silence is golden.
- Perception equals reality.
- Experts make the best messengers.

For railgun, lasers, and autonomous swarm, the most common conventional wisdom trap avoided was "just get the word out." How often has a blast email resulted in successful change? Too often, information dissemination is confused with effective communication. After the "word is out," it is tempting to check off communication as completed. In fact, *all information must pass through complex filters before it registers* with meaning for a receiver. These filters transform (limit and distort) information, especially under stress, so what the receiver hears may bear little resemblance to what the sender intended. These filters include:

- ability to focus on the information
- trust and credibility of the source
- alignment of words with actions.

The proper metric for communication is not what we say, but what others hear and do in response. This underscores the dual role of communication in technology adoption: First, we must have effective strategies to inform critical decisions. And second, we must understand stakeholders' points of view to anticipate potential resistance and advise decisionmakers on options for gaining informed support.

Electromagnetic Railgun: Overcoming Resistance

Railgun is a revolutionary advancement in naval gun technology. Developmental success has enabled rapid progress toward land-based and at-sea demonstrations. Railguns provide affordable solutions to costly challenges. What began as an ONR-funded project is now a technology for America's future fleet. Railgun uses electricity instead of gunpowder to fire hypervelocity projectiles at speeds up to Mach 7, at ranges 10 times farther than current naval guns, and with greater accuracy. Railgun is safer to operate aboard ships and is effective against multiple threats.

Dylan Ottman, from Office of Naval Research (ONR) Tech Solutions program, explains technology behind Fast-Tint Protective Eyewear during ONR 2012 Science and Technology Partnership Conference, Arlington, Virginia (U.S. Navy/John F. Williams)

Like Lieutenant Sims with continuous-aim gun technology, railgun is disruptive to adversaries and in a different way to those internally vested in the status quo. Dr. Elizabeth D'Andrea, the ONR railgun program officer in 2007, understood the advocacy challenges for railgun, and it became apparent that most were based on misperceptions, uninformed opinions, or lack of awareness. "Railgun was not being taken seriously by naval leaders," stated D'Andrea. "The lab team was making breakthroughs almost every day, but they did not know how to translate 'tech-talk' into 'fleet-speak' that naval officers understand." Additionally, some pockets of deeper resistance saw railgun as a threat to the existing political/social order of naval gun and missile technology.

D'Andrea understood the stress of time constraints, limited resources, and competing priorities on leaders whose support was critical. With then–Chief of Naval Research (CNR) Rear Admiral William Landay, it was determined that direct engagement with stakeholders at a demonstration was the best course. Invited were key decisionmakers, including then–Chief of Naval Operations (CNO) Admiral Gary Roughead and others who could speak to the technological merits with higher credibility than could ONR alone. Landay and D'Andrea also knew they needed support beyond DON and invited the news media. The event was positioned as a "World Record" demonstration of a 10-megajoule shot—then the world's most powerful railgun.

With so much on the line, spokespersons were prepared to deliver comprehensive structured messaging telling the compelling story accurately. At Naval Surface Warfare Center (NSWC)–Dahlgren on January 31, 2008, Dr. D'Andrea, her chief engineer Charles Garnett, and Rear Admiral Landay achieved success with an event that became known as the railgun "shot heard round the world." "This was a turning point for railgun. It earned CNO as a champion who understood its warfighting value. Going forward, communication became a major part of my job as visibility increased. We focused on gaining key stakeholders' trust and were very honest about our successes, failures, and challenges. Consistent messaging, backed up by results, was the key," stated D'Andrea.

National media coverage helped foster interest outside DOD and captured the public's imagination. Clips of railgun tests earned millions of views on the ONR YouTube channel. Railguns found their way into video games, science classes, and even Hollywood (for example, a Navy ship armed with railguns saved the planet in the *Transformers* sequel). Support continues, and railgun is on track to become an official program of record.

The conventional wisdom traps avoided in this example were "you cannot over-communicate" and "decide, announce, defend." Communication opportunities must be established between parties for innovation diffusion to occur.[5] The goal for the railgun example was to communicate for effect. Where mass awareness is the objective in marketing, in this case, building relationships with decisionmakers was key to success.

People are bombarded every day with more information than they can process. Railgun needed to cut through distractions to become the signal in the noise. This meant concise, clear, brief, and accurate messaging on an interpersonal level for mitigating resistance, fostering trust, and building a support network (old-fashioned, face-to-face conversation).

Innovators must see themselves as change leaders and understand their responsibility for communicating. Dr. D'Andrea made the railgun program very transparent to Navy leadership. Unfortunately, *an often-observed pattern in organizational communication is the DAD (decide, announce, defend) model.* Typically, executives huddle behind closed doors to make an important decision. Especially when the decision has negative impact on the workforce, as the decision is announced, leaders find themselves immediately on the defensive, scrambling to explain their decision to now angry and distrustful personnel.

Trust is based in perception and is essential for informed support. Valuing people means more than just informing them; it means involving and engaging them. The credibility lost from DAD is far less about the decision itself than how it was reached. *People expect a voice in decisions that affect them.* When that voice is denied, resistance (sometimes outrage) is predictable.

No matter how compelling a new technology may be, innovators must consider its potential negative impacts (real and perceived). Good communication strategies account for stakeholders' needs, expectations, and potential resistance.

Laser Weapons System: Addressing Barriers

High-energy laser weapons represent game-changing technologies. ONR is a leader in fielding directed-energy technology, and laser systems complement existing naval weapons. Lasers enable the Navy to fight at the speed of light. In 2014, the first operational laser cannon was installed aboard the USS *Ponce* and deployed to the Persian Gulf. Testing proved that lasers could work in the harsh maritime environment. Providing new levels of precision and speed for naval warfighters, laser weapons also increase safety because, like railguns, they use electricity rather than explosive propellant or warheads, eliminating ammunition magazines. A laser weapons system (LaWS) is tunable, giving commanders the option to fire a warning flash before a lethal beam. Current power levels are effective against small boats, planes, and unmanned aerial vehicles. They also cost less to build, install, and fire—less than $1 per shot—compared to traditional weapons such as multimillion-dollar missiles.

So why has it taken so long to get lasers aboard ships? After all, laser development started in the 1980s under the Ronald Reagan administration's Strategic Defense Initiative, or "Star Wars." The technical hurdles are significant. Weapons-strength lasers require large amounts of energy, both for the beam and for the apparatus itself. Early lasers suffered from system weight, low efficiency, and materials deficiencies. Focusing and targeting the beam aboard a moving ship in a maritime environment are also difficult computing and engineering challenges. Given these issues, one can understand the skepticism.

Peter Morrison, ONR program officer for LaWS, and his team approached the problem using a combination of commercial lasers normally used for manufacturing. They modified components and designed the system to achieve the necessary performance for a warship. In 2013, they were ready to test-fire aboard the USS *Dewey* against a drone. Within seconds of firing, the drone burst into flame and crashed into the ocean. The test was successful, but few knew about it. What did this mean for the Navy, the program, and the future of directed energy? Morrison had historical data from the project, test results, and high-resolution video. Would these facts speak for themselves? "True innovation should expect skepticism," stated Morrison, "and skepticism plays an important role in science, but it means one must communicate meaningful facts to stakeholders. This can turn potential skeptics into educated advocates." To leave the narrative interpretation to those feeling threatened by its success could provoke greater resistance. Morrison briefed then-CNR Rear Admiral Matthew Klunder, who, understanding the importance, provided support for a communication strategy.

The first step was to assemble program information into a message map. Message-mapping is a process that collects, organizes, and structures data into key messages, supporting facts, and proof points. The next consideration was messenger selection. For different stakeholders, messenger credibility varies, as does the effectiveness of various communication methods. Among the technical community, Morrison and his team engaged their peers and fellow program officers. They provided classified briefings to flag officers and officials, while Rear Admiral Klunder briefed peers and top-level decisionmakers. Internal support evolved along with alignment of messaging, both critical for addressing public inquiry. And media were already digging.

As the USS *Dewey* returned to San Diego, a reporter published a photograph showing a large white dome on its fantail, postulating that it could be a laser system. Rather than letting the rumor mill run amuck, the CNR decided to meet with media and get ahead of the story. At traditional news conferences,

Table 1. LaWS Message Map

High energy laser weapons represent game-changing technologies		Laser systems complement existing naval weapons suites		The U.S. Navy is a leader in fielding directed-energy technologies	
Inherently low engagement costs	50 cents per shot Vs. $1 OOs K per missile Deep magazine Suitable for low-budget environment	Effective against a range of threats	Small boats UAVs Sub-sonic cruise missiles Aircraft	Rapidly innovate in response to emergent threats	Mature science (well past physics) Have the power Successfully tested onboard a ship
Multi-mission capabilities	Deter asymmetric threats Protect shipping Terminal defense Transportable	Deployable on a range of platforms	Shipboard Airborne Ground-based systems	Deliver advanced capabilities to forward deployed forces	Ready to put on naval ships Currently in integration efforts Testing continues
Speed-of-light engagement	Precision Fast engagement time Radically maneuvering targets Limited collateral damage	Enhances ship combat effectiveness	Changes in naval tactics New ship designs Enhance procurement plans for ship-based weapons	Will continue to be introduced as technology matures	Navy platforms USMC platforms 2016 test at sea

27-9-3 Statement: "High energy lasers weapons represent game-changing technologies. The U.S. Navy is a leader in fielding directed-energy technologies, and laser systems complement existing naval weapons suites."

the spokesperson stands at a podium. However, to put people more at ease, ONR's media relations lead, Peter Vietti, developed a conversation-based roundtable format with Klunder as chief spokesperson and with Morrison attending to provide details. Reporters were invited to participate either in person or by phone. The resulting news headlines made the Navy's laser cannon known around the world with remarkable accuracy and consistency of messages. Awareness soared, and support followed.

Following the announcement, then-CNO Admiral Jonathan Greenert ordered the laser "out to the Fleet for operational demonstration." The program accelerated to install an advanced prototype aboard the USS *Ponce*. Testing in the Persian Gulf allowed Sailors to see its value firsthand, gaining their informed support and credible advocacy. Reporting this success also signaled a new age for the U.S. Navy to potential adversaries.

Today, a new generation of 150-kilowatt lasers is being developed for the *Arleigh Burke*–class of destroyers. The fiscal year 2016 defense bill "directs the Secretary of the Navy to develop a plan for fielding electric weapon systems," meaning both lasers and railguns. Laser weapons and railgun are paradigm shifts for the Department of the Navy, changing the doctrine of naval warfare. While prototypes have shown great promise, neither is a satisfactory solution, and both require future ships to be designed from the keel up to support electric weapons. This requires the Navy to make an "all in" wager. Making the shift from traditional guns and missiles requires long-term vision, communication support, and leadership from both military and elected officials.

The conventional wisdom traps avoided in this example were that "facts speak for themselves" and that "silence is golden." Relying on facts alone to resolve misperceptions is unrealistic in high-concern circumstances. Behavior is predicated on perceptions, and misperceptions often lead to behaviors that seem irrational from the perspective of reality. The innovators' challenge is that they may be too close to their ideas to see how others might fail to grasp the importance.

Research shows that *stressed people lose on average 80 percent of their capacity to process information (hear, understand, and remember)*. To mitigate this loss and optimize the remaining 20 percent of capacity, *the communicator must pre-process the information to make it more digestible*. The message map is designed specifically to pre-process information.

People can process three messages at a time. Message maps, therefore, arrange data in three levels of three: three key messages, three supporting facts for each message, and three "proof points" for each fact. This "27-9-3" structure helps people determine what is important (key messages) and whether the information is believable (supporting facts and proof points) (see table 1).

There are no information voids; something always fills them (usually rumors). There is strong temptation to withhold information until all decisions are made and all questions have answers. The problem with this "silence" is that stakeholders' needs do not remain on hold while leadership deliberates. Silence breeds uncertainty and distrust. Silence is antithetical to pre-decisional dialogue that could satisfy *people's expectation of having a voice (control) in decisions that affect them*—a prerequisite for support. The alternative is providing interim updates through two-way channels, clarifying what is known and what is not, steps taken toward clarification, and when the uncertainty will end.

Innovators must know that *uncertainty is a heavy psychological burden* on those whom their innovation might impact. A steady flow of meaningful communication relieving the anxiety of uncertainty enhances trust and acceptance.

Swarmboats: Managing Perceptions

With autonomous swarm, unmanned Navy vessels can overwhelm an adversary. A first-of-its-kind technology

Dan Wise, from Naval Surface Warfare Center, Dahlgren Division, prepares to take readings following successful test of Office of Naval Research–funded Electromagnetic Railgun, in Virginia, June 21, 2012 (U.S. Navy/John F. Williams)

enables swarming capability, which gives our naval warfighters a decisive edge. Autonomous vehicles are used widely across the Service on, under, and above the ocean. The next logical step is to connect them in new and meaningful ways. Swarming of autonomous systems opens new thinking about autonomy: improved ability to operate forward, protection of high-value assets (for example, the USS *Cole*), and multiplied combat power and improved distributed lethality at decreased risk.

In 2014, ONR demonstrated autonomous swarming technology in unmanned surface vehicles (USVs) on the James River in Virginia. The swarmboats simulated a "high value unit" transit such as the Strait of Hormuz, where Iran regularly employs swarm tactics (not autonomous) using small speedboats. Thirteen USVs in the test constantly shared sensor data and route information using a software/hardware kit called CARACaS (Control Architecture for Robotic Agent Command and Sensing), derived from the National Aeronautics and Space Administration's Mars Rover program.

Shutting down the James River and the airspace above it does not go unnoticed. Likewise, boats without people aboard maneuvering around the test range raise obvious questions from onlookers. And the dominant characteristic of swarmboats—their ability to act autonomously—rekindles dire perceptions about science-fiction scenarios.

Despite their benefits, autonomous swarmboats faced significant technical and emotional hurdles regarding whether a robot should ever make a lethal decision. From engineers to leadership, the answer was a unanimous *no*. This was a priority message. Additionally, before Sailors were asked to relinquish control to autonomous boats, the benefits of swarm and the trustworthiness of the technology had to be made clear. Sailors from the Naval Expeditionary Combat Command (NECC) were an integral part of the test. These "real" Sailors oversaw the swarmboats as supervisors oversee subordinates, giving direction and evaluating performance.

As with railgun and LaWS, the first step was to develop a message map with Dr. Robert Brizzolara, the ONR program officer responsible for autonomous swarmboats. Brizzolara and his team focused on what the technology does, how it works, and why it is important. The demonstration required coordination with ONR, NECC, Fleet Forces Command, NSWC-Carderock, Fort Eustis, and the Coast Guard to work just as a real-world scenario. On a hot August day, after years of research, multiple autonomous USVs successfully demonstrated the new swarming capability—both in escorting vessels and engaging hostile craft.

Benchmarking the prior success of the LaWS communication strategy, external outreach was delayed until internal Navy briefings were accomplished and support was gauged. The technology

was well received, and Admiral Greenert put his full support behind announcing the breakthrough. Once more, Rear Admiral Klunder was the spokesperson, lending his credibility to the warfighter benefits and addressing potential negative perceptions about autonomous systems. Brizzolara focused on the technology, publishing articles about the CARACaS kit in defense journals.

National media recognized the importance of this breakthrough and accurately reported the story, positioning the capability as a new defense against another USS *Cole*–like incident and as a counter to Iranian small boat operations in the Persian Gulf. "The first USV swarm demo was a key milestone in autonomous control for USVs," stated Brizzolara. "We demonstrated autonomous operation of a team of USVs in a higher-fidelity environment than ever before. We are building on that success, adding to the capability and planning more complex demos to further develop the technology." The swarmboat program conducted additional demonstrations and testing in 2016 and is on track for operational unmanned surface vehicles.

This technology is also revolutionizing unmanned aerial vehicles (UAVs)—part of ONR's Low-Cost UAV Swarming Technology (LOCUST) program. LOCUST can launch dozens of swarming UAVs to autonomously overwhelm an adversary. A ship-based demonstration of 30 rapidly launched, autonomous, swarming UAVs is planned.

In this third example, the conventional wisdom traps avoided were that "perception equals reality" and that "experts make the best messengers." A more accurate statement regarding perception and reality is that "What is perceived as real is real in its consequence."[6] Obviously, gaps occur between reality and perception. But the significance of these gaps might be surprising. *Simply introducing facts into a debate rooted in misperception is unlikely to resolve differences.* Applying this thinking to the introduction of new technology, such as autonomous swarmboats, illustrates how words and actions can promote *trust*, communicate *benefit*, and share *control*:

- Is the source of information trusted? (appropriate messenger)
- What are the benefits to me and others? (safe and cost-effective)
- How do stakeholders exert control? (Sailors supervise the USVs)

People judge the messenger before they listen to the message. Expertise alone does not make a trusted messenger. The critical characteristics for effective messengers are trust and credibility. If the judgment on messenger trustworthiness is not favorable, the message is irrelevant. When people are asked what their criteria are for trusting someone, responses fall into three broad categories: competence and expertise, honesty and openness, and caring and empathy.

In low-stress situations, competence and expertise account for approximately 85 percent of trust (whom do I trust to perform routine maintenance on my car?). *In high-stress situations, 50 percent of trust is based upon caring and empathy* (whom do I trust to guide me in a financial or health crisis?). In other words, people do not care what you know until they know that you care. With autonomous swarmboats, for example, we did not circumvent the issue of human-in-the-loop control—it was addressed head-on, acknowledging concerns about lethal decisionmaking.

One of the most powerful signals of caring and empathy is active listening. Innovators should take time to listen to stakeholder concerns upfront, ensure understanding, actively address them, and provide periodic updates. Even though concerns may be unfounded in reality, they are real to those holding them—and therefore legitimate. Words or actions minimizing the importance of stakeholder concerns will set back trust significantly.

Table 2. Science-Based Communication Factors

Railgun (Overcame Resistance)	1. Intensity of Resistance: Low, Medium, High 2. Depth of Resistance: Opinions, Beliefs, Values
LaWS (Addressed Barriers)	3. Barriers to Informed Support: (Lack of) Awareness, Knowledge, Understanding 4. Overcoming Barriers: Inform, Involve, Engage
Swarmboats (Managed Perceptions)	5. Perception Factors: Trust, Benefit, Control 6. Interactions Shaping Perception: Dissemination, Interactive, Interpersonal

Stressed people attribute 75 percent of message content to nonverbal signals: attire, posture, grooming, vocal qualities, and behaviors. Nonverbal signals are processed quickly—usually within 30 seconds for a presenter before an audience. When stressed, the most negative interpretation of any nonverbal signal will apply (folded arms, dry mouth, and shifting eyes would signal defensive and unapproachable, nervous and lying, and dishonest and deceptive).

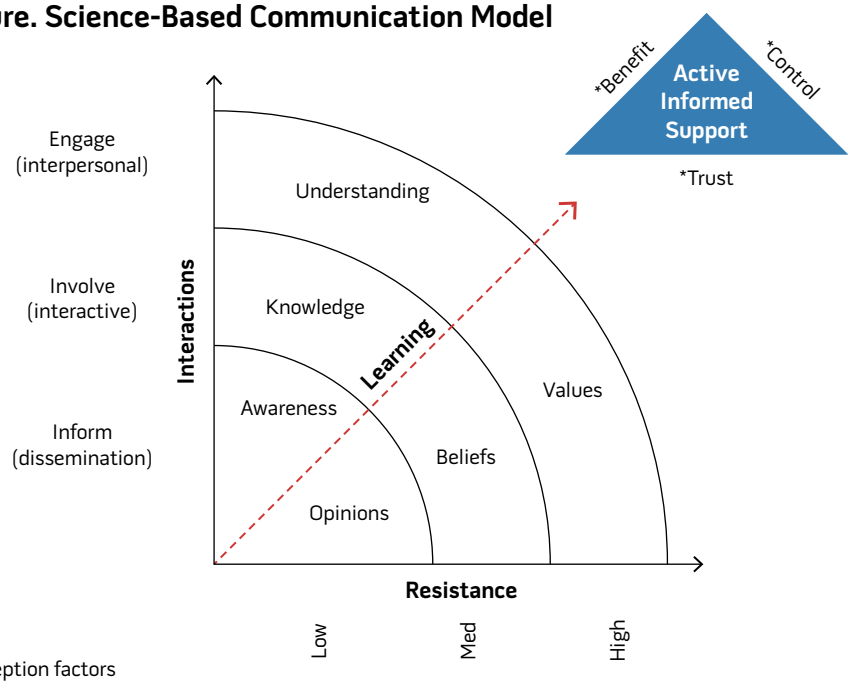
Trust is hard won and easily lost, so selection of credible messengers is critical. Credibility is relative; it varies by person, organization, and topic. Ranking the voices on a topic provides a "credibility ladder" that is a guide in selecting messengers. Since the military enjoys high confidence with the public, the CNR was a logical choice as spokesperson for autonomous swarmboats. The CNR, no matter who occupies the position, has the responsibility to lead ONR's command message.

Conclusions and Takeaways

The ingenuity of the men and women serving the Department of Defense is not in doubt—the challenge for innovators is developing informed support for implementation. Science-based communication principles change how we traditionally think about communication: from "get the word out" to careful planning for the concerns, needs, and perceptions of stakeholders. Communication informs strategic plans, and planning informs communication strategy.

We define communication as *the application of messaging, strategy, and tactics to achieve an effect*. Effectiveness depends on how well we resolve the

Figure. Science-Based Communication Model



*Perception factors

Chart 8: Learning is first a function of effective communication. "Active informed support" results from assessing depth of resistance (opinions, beliefs, values) against a range of communication methods (inform, involve, engage) to dispel or counter misperceptions. Perception factors are addressed through accurate messages and actions that foster trust, show benefit and share control. This promotes learning by expanding awareness, knowledge and understanding toward the goal of being the "signal in the noise."

factors that contribute to resistance, barriers, and misperceptions. Table 2 summarizes the factors discussed in each of the technology cases. Combining the "science-based communication factors" suggests a model uniquely applicable to the diffusion of technology innovation (see figure).

Leaders must set the conditions for innovation. Does the command climate support innovators (*trust*)? Are they recognized (*benefit*)? Are they empowered (*control*)? Military culture fosters the mindset that "what interests my boss fascinates me," so communicate that innovation is a priority, and put collaborative processes in place to engage people on a portfolio of mission-based initiatives. Change policies that inhibit innovation and agility (foster speed and decentralized authority). No matter how compelling a new idea or technology may be, a leader must empathetically understand the people it will impact and then act accordingly.

Based on lessons learned, we offer the following seven communication practices:

- Think "Down and In": Effective communication begins internally like the nervous system of an organization. Communicate goals to align your team, build relationships, and find support in your chain of command, then attract thought leaders as advocates and early adopters.
- Communicate for Effect: Develop communication strategy upfront by mapping stakeholder needs, concerns, and perceptions to foresee resistance and how to gain informed support.
- Anticipate, Prepare, Practice: Adopt high-stress communication principles to avoid conventional wisdom traps—common sources of failure in change initiatives.
- Signal in the Noise: Use 27-9-3 message maps to drive integrity and a consistent voice. Tell a compelling story with supporting imagery about what your innovation is, how it works, and why it is important.
- Find a Champion: Ally with a senior-level sponsor in a position commensurate with the change associated with your innovation.
- Know Your Audience: Identify credible voices for different stakeholders. Rank these against the relative credibility of opposing voices.
- Think "Up and Out": Communication with media can provide independent validation; this requires strong public affairs support.

Innovators are change leaders, which requires much more than a good idea to be successful. Science-based communication helps mitigate stress from innovation-induced change. Expanding communication beyond just "getting the word out" avoids conventional wisdom traps and focuses on dialogue with stakeholders and decisionmakers. Examples of communication at the Office of Naval Research provide a framework to think strategically: thinking "down and in" promotes internal alignment, and thinking "up and out" helps to proactively manage perceptions and expectations. "Breaking through with your breakthrough" is ultimately a function of your communication effectiveness to overcome resistance, lower barriers, and achieve informed support—an important competency for all leaders. JFQ

Notes

[1] Elting E. Morison, "A Case Study of Innovation," *Enineering and Science Monthly*, vol. 7 (1950), 5–11.

[2] Everett M. Rogers, *Diffusion of Innovation*, 5th ed. (New York: Free Press, 2003), 221, 267.

[3] Peter J. Denning and Robert Dunham, *The Innovator's Way: 8 Essential Practices of Successful Innovation* (Cambridge: MIT Press, 2010), 5–6.

[4] Public Law 588 of 1946, signed by President Harry S. Truman.

[5] Rogers.

[6] Vincent Covello et al., *Improving Risk Communication* (Washington, DC: National Academies Press, 1989), table 2.1, 35.

President Obama talks with Director of the Centers for Disease Control and Prevention regarding recently diagnosed Ebola case in Dallas, Texas, September 30, 2014 (The White House/Pete Souza)

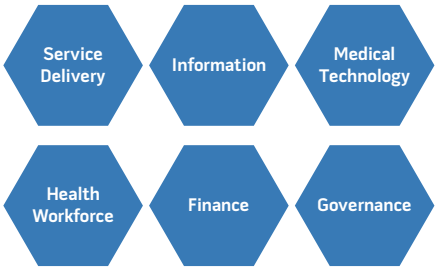
The Imperative for a Health Systems Approach to Global Health Engagement

By Tracey Koehlmoos, Linda Kimsey, David Bishai, and David Lane

The military health system is a strategic asset. The Department of Defense (DOD) spends more than half a billion dollars per year on global health engagement (GHE). There is a shift from an exclusive focus on service delivery to information-gathering in order to support community engagement in public health policy development, thus engaging broader elements of the health system. This transition requires DOD GHE efforts to consider how they can contribute to stronger health systems and broader global health objectives. Military GHE is an essential part of a national strat-

Dr. Tracey Koehlmoos is a Division Director and Associate Professor in the Health Services Administration (HSA) at the Uniformed Services University of the Health Sciences (USUHS). Commander Linda Kimsey, USN, is the Master of Health Administration and Policy Academic Director and Assistant Professor in the USUHS. Dr. David Bishai is a Professor at the Johns Hopkins Bloomberg School of Public Health. Rear Admiral David Lane, USN, is Director of the Defense Health Agency's National Capital Region Medical Directorate.

Figure. The Dynamic Architecture and Interconnectedness of Health System Building Blocks



Source: Don de Savigny and Taghreed Adam, *Systems Thinking for Health Systems Strengthening* (Geneva: Alliance for Health Policy and Systems Research, 2009)

egy that recognizes the importance of strong health infrastructure to the stability and health of nations.[1] In the context of competing budgetary concerns within DOD, it is even more essential that GHE not only meets the needs of partner nations but also produces maximum benefit to the broader policy objectives of the United States. Systems engagement is more aligned with U.S. projection of soft power as well as improving civic engagement between American health assets and civil society in partner countries.

Expanding Soft Power

In the development and health care arena, both health and/or general systems thinking strives to capture how various elements are connected to each other within the whole. In approaching an issue or an intervention, however discrete, there is the need to model the impact that one change, one input, one circumstance might have on the broader environment. In this context, it is useful to invoke a model showing how things relate to one another. By thinking and engaging with the health system rather than with a single component, the ability exists to produce a synergy in which the outcome of engagement is greater than the sum of the individual parts.[2]

Evolution of DOD GHE

Although DOD was formally established in 1949, its roots go back to the founding of the Army, Marine Corps, and Navy prior to the American Revolution. Global health projects date back to the Philippines campaign in the late 19th century, which attempted to use the delivery of health services to foster support for U.S. forces. During the 20th century, the military not only proved that mosquitoes were the vector for yellow fever, but also engaged in prevention programs for yellow fever and malaria. The era after World War II saw the creation of overseas laboratories in Guam, Egypt, and Thailand and the development of the hepatitis-A vaccine. Later in the 20th century, in addition to the medical research laboratories, there were efforts to help countries contain biological threats and to assist with the delivery of health services through short-term, episodic medical interventions often referred to generically as medical civic action programs (MEDCAPs) or medical readiness training exercises. Since the United Nations (UN) Security Council's 2001 declaration that HIV was a national security threat because of the potential destabilization of societies, DOD has deepened its engagement in global health through basic research and development, health service delivery, and public health projects to support a systems response to ongoing and emerging health threats.[3]

Following criticism for disjointed efforts and lack of progress toward achieving broader engagement objectives, DOD made a series of policy and organizational changes during the past 5 years to adopt a more balanced approach that supports sustainability and demonstrates the effectiveness of such engagement. Perhaps most importantly, the 2010 DOD Instruction 6000.16, "Military Health Support for Stability Operations," declared that GHE should be given priority comparable to combat operations. DOD is increasingly emphasizing and engaging in GHE activities within the areas of responsibility of each of the combatant commands so that more than 50 percent of DOD's humanitarian assistance projects, throughout all combatant commands, are medical or health related. However, there is still a lack of clarity in the primary authority over all of DOD GHE activities.[4]

In 2011, the Under Secretary of Defense for Policy, who has policy but not execution oversight of foreign engagements, established the military position of Global Health Engagement Coordinator within the Stability and Humanitarian Affairs Office. This office provides policy oversight and guidance for conducting health- and medical-related activities with foreign civilian and military entities. The creation of other new offices for coordination includes the Global Health Working Group as well as an International Health Division within the Defense Health Agency. To capture effectiveness of interventions, the department commissioned the Measure of Effectiveness for Defense Engagement and Learning program to develop a method to better evaluate how GHE helps meet U.S. national security goals and establishes a tool to assess efficiency and effectiveness of health engagements.

Understanding the Components of the Health System

The World Health Organization (WHO) defines a *health system* as "all organizations, people and actions whose primary intent is to promote, restore or maintain health."[5] Traditionally, much of DOD health engagement focused on the delivery of health services by military personnel or, more recently, in collaboration with host-nation military personnel, as opposed to maximizing the potential to build capacity, promote stability, and strengthen relations through engagement with elements of the entire health system. A country's health system is not the same as a health care system. There is frequently confusion over the connection of health care services with the broader determination of population health in the overall health system.

The delivery of health services is just one of six building blocks of the health system, as originally proposed in the WHO's Framework for Action.[6] The other five building blocks of a health system are the health workforce, health information, medical technology, health

financing, and leadership and governance (see figure). The six–building block model proposed in the Framework for Action, like other health systems models, provides a conceptual framework toward understanding the entirety of a health system while also facilitating the effective comparative analysis of different health systems around the world. Each building block will be described in turn, accompanied by current and/or potential mechanisms for military health system engagement. An important systems principle is that these building blocks have multiple layers of interconnection and the whole is larger than the sum of its parts. A key concern for DOD is ensuring that its engagement effects the interconnection to create greater coherence and alignment with the objectives of better population health and projection against emerging threats.

Patients wait during Medical Civic Action Program in Lunga Lunga, Kenya, August 23, 2012, as part of Combined Joint Task Force–Horn of Africa (U.S. Air Force/Daniel St. Pierre)

Service delivery, almost exclusively direct patient care, has long been a hallmark of DOD GHE. Service delivery includes aspects of packages of services being offered; delivery models like in the home, in the community, or in the clinic or hospital; health infrastructure and flow of logistics; management; safety and quality; and capturing the demand for care.[7] This work was most frequently conducted through MEDCAPs and their dental counterparts or as part of a disaster response or humanitarian aid situation.

While the fallback for consideration in service delivery is the government or public sector services, in many low- and middle-income countries a substantial proportion of all health services is actually sought in the nonstate sector. There is growing acknowledgment that governments and donors must look beyond the traditional boundaries of public health service delivery and engage the nonstate sector (that is, private, nongovernmental organizations [NGOs], faith-based organizations, and so forth)—although it is not clear how best to do this—and interventions to work with the nonstate sector may have unintended effects. An example highlighting this change from public to nonstate service engagement from the recent conflicts in Iraq and Afghanistan includes military personnel delivering health services in conjunction with NGOs in Afghanistan. One lesson learned about how best to work with nonstate actors and the possible unintended consequences is to complement rather than duplicate the efforts of other agencies including NGOs. Additionally, local civilian governments, and the health services provided directly to civilians, should emphasize the local standards of care so that unsustainable interventions do not lead to unrealistic expectations or the perception of a decline in "positive perceptions of the U.S. military."[8]

The *health workforce* is the next building block. It is made up of the people within a country whose primary role is to protect and/or improve health regardless of level of training. There is great variation in the type and density of cadre, especially in developing countries. Viewed as a spectrum, there might be physicians, policymakers, planners, and managers at one end and skilled birth attendants, community health workers, and even untrained providers and drug sellers at the other—spread between the public, nonstate, and private sectors. WHO has found a strong positive correlation between health workforce density and service coverage and health outcomes.[9] GHE in the health workforce building block might include augmenting the training programs of partner-nation military physicians by visiting U.S. military physicians. In a newer expanded paradigm of health engagement, corpsmen might share skills with community health workers or via short-term exchange programs at medical, dental, health service administration, and nursing schools.[10] Of note, however, lessons learned from Afghanistan have demonstrated that investment in medical and educational infrastructure without assuring that the local health workforce and health system can sustain new facilities should be avoided.[11]

Next, *information* means that the health system allows the generation and strategic use of information, intelligence, and research on health. Ideally, three areas should be covered under health information, including data and analysis on health determinants, health systems performance (including outcomes), and health status of populations. Some well-developed examples of GHE that support this building block include the development of disease surveillance systems, the rollout of standardized and reliable tools and instruments, and the collation and participation in the publication of international health statistics. The WHO states that "more than just a national concern, as part of efforts to create a more

secure world, countries need to be on the alert and ready to respond collectively to the threat of epidemics and other public health emergencies."[12] A functioning health information system in a country enables local and global decisionmakers to prevent or respond to a crisis in a real-time manner. Partner nations can be empowered to collect, analyze, and share their own health information. This type of engagement is longstanding to some extent through the Centers for Disease Control's (CDC's) Global Health Security Branch and especially the joint Biological Threat Reduction Program as well as through the network of military laboratories led by the Armed Forces Health and Surveillance Center. Moving forward, however, efforts should be made to build capacity in the host nation and empower local institutions strengthening the relationship between nations rather than just train local employees to support the U.S. military–led efforts in a nonsustainable manner.

The next building block is *medical technology*. Broad areas within this building block include medical products, vaccines, and other technologies with a cross-cutting emphasis on quality, safety, and cost-effectiveness of these items. To some extent, DOD could participate in the technology transfer from high-income countries to developing countries with an emphasis on essential medicines for maternal child health and neglected tropical disease. DOD work on vaccines is perhaps its most visible contribution to global health, having played a major role in developing 25 percent of all licensed vaccines in the United States since 1962. More recently, DOD has led the only late-stage clinical trials for vaccines found to be efficacious against malaria and HIV. While the Army and Navy's overseas medical research laboratories in Thailand, Egypt, Peru, Kenya, Germany, and Cambodia conduct medical research that ties directly to the protection of deployed Servicemembers, their work has led to the development of health products including vaccines, drug therapies, and medical devices with the ability to improve health worldwide, as well as building the local medical and scientific capacity.[13] One recent accomplishment is the successful development and testing of an HIV vaccine in Thailand. Consistently low funding for the laboratories has led to the creation of entrepreneurial scientific activities with local and global partners such as universities and other international agencies, thus strengthening the brand and, in most cases, the relationship with local governments, so the labs should be considered "national assets."[14] However, as exemplified by Naval Medical Research Unit 2, whose 40-year history in Indonesia ended in 2009 during a protracted and aggressive disagreement over viral sample rights to H5N1 (Avian Influenza), it is essential for these facilities to protect their work and the U.S. Government's investment through the development and maintenance of host-nation champions.[15]

The penultimate building block is *financing*. Health financing mechanisms vary across nations depending on history, institutions, and traditions. The goal of health financing should be to reduce gross inequities in access to necessary care and avoid catastrophic costs to the population, especially the poor. In some developing countries, there are innovative approaches like micro-insurance, voucher schemes, or social franchising in efforts to provide universal coverage. There is no one best or right model, but the military health system should be cautious not to deliver services that diminish confidence in or otherwise interrupt local programs and practices.

While the financing of the health sector may appear to be the health systems building block best suited to be addressed by other agencies in the U.S. Government, DOD contributes to this effort, too. For example, DOD engagement helps in the fight against HIV through implementation of the President's Emergency Plan for AIDS Relief (PEPFAR), which in general supports work in 73 countries. PEPFAR supports HIV/AIDS prevention, treatment, and care, strategic information, development of human capacity, and development of programs and policies in partner militaries and civilian communities. Thirteen PEPFAR countries have unique military-to-military–specific HIV/AIDS prevention programs designed to address risk factors, in addition to treatment and care programs for their personnel. It is worth noting that the DOD budget for fiscal year 2011 for PEPFAR was $148.5 million, and most of these accounts are administered by combatant commanders or the Defense Security Cooperation Agency. The DOD HIV/AIDS Prevention Program is a relatively small portion of PEPFAR funding and is stovepiped from the broader health systems finance. While efforts toward health sector reconstruction in Afghanistan might serve as an example of health financing, DOD has limited engagement in this arena but can seek to improve in future efforts.

Last and perhaps most importantly, the building block of *leadership and governance* is the most complex. Also known as stewardship, this area focuses on ensuring strategic policy frameworks and effective oversight of the system; coalition-building; and accountability, regulation, and attention to the overall design of the health system.[16] Again, there is no single model for stewardship of a health system, although in most countries the default is to the ministry of health or its equivalent. However, before the military engages in global health, consideration should be given to the reality that in some developing countries, there are large-scale NGOs serving a majority of the population. For example, in Bangladesh the NGO BRAC (formerly known as the Bangladesh Rural Advancement Committee) has more than 64,000 village health workers who touch the lives of 110 million Bangladeshis and, as the world's largest NGO, has more than 120,000 employees working in 14 countries including Afghanistan, Uganda, Pakistan, and Sudan.[17] A long-term gap in this area was that humanitarian visits by U.S. Navy hospital ships often took place with little if any interaction with local health-related activities undertaken by U.S. civilian agencies and NGOs.[18] Furthermore, military GHE with host-nation leadership appears to lack clear guidance as to which agency (U.S. civilian or host nation) should engage local

governments, and there appears to be no consistent guidelines on when to depart a humanitarian relief situation. Efforts to develop defense health leaders from foreign nations require research in terms of effectiveness for improving GHE and strengthening health systems.

Critical Considerations for Expanding Soft Power

Unintended consequences and connections typify health systems, and policymakers and strategists must design monitoring systems and stakeholder engagement to remain responsive and proactive. Such holistic thinking and broad objectives could assist with overcoming the pervasive misunderstandings in the approach, culture, and vocabulary that currently hamper the DOD ability to work well with other agencies and groups in the global health arena.[19] Given the prominence of GHE as a key to soft power for the United States, more effort should be given to achieving sustainable, well-planned, and well-coordinated military-to-military and military-to-civilian activities.[20] Furthermore, in the current Joint Concept of Health Services, although its primary focus is on the readiness of U.S. medical forces, GHE is encouraged with an eye toward assisting partner nations to develop and sustain their health service networks to ensure capabilities are suitable, accessible, and understood when the United States needs them to support operations. Better engagement would enable DOD actors to use existing resources to understand both the health system of the partner nation and the evidence base for an appropriate response. These resources exist in places such as the WHO-sponsored Asia Pacific Observatory on Health System and Policy, which is home to Health System in Transition reports and the Evidence Aid repository, which is an international initiative to provide information to decisionmakers through creating access to systematic reviews on the effects of interventions and actions of relevance before, during, and after natural disasters and other humanitarian emergencies.

Patient looks through lens to determine eyeglass prescription during 2013 Operation *Pacific Angel*, Dong Hoi, Quang Binh Province, Vietnam (U.S. Air Force/Sara Csurilla)

Health Systems and National Objectives for Future GHE

Future engagement by the military with international governments and health systems might benefit from closely aligning with broader national and international models. Some examples of effectively using soft power to improve the health of the poor might include assistance with achieving specific targets in the Millennium Development Goals and the forthcoming Sustainable Development Goals, which will include responding to the emerging threat of noncommunicable diseases and assistance with stemming the scourge of motor vehicle crashes. Developing capacity in these areas demands engagement across multiple sectors of government and civil society. Public health practitioners in partner countries in connection with public health experts from DOD could and should convene local stakeholders from law enforcement, commerce, transport, and the private sector to examine epidemiological data on modern threats to health.

First, the majority of low- and middle-income countries have spent the previous 15 years engaged in efforts to achieve the UN Millennium Development Goals. There are well-evidenced packages of interventions for achieving most of the health-related goals, such as reducing infant mortality, improving maternal health, and combating HIV/AIDS, malaria, and other devastating infectious diseases. Future MEDCAPs or training exercises could work with partner nations' ministries of health or local NGOs to understand the country-specific, targeted approaches required to achieve the goals and to ensure that all health services assisted with meeting the goals. An example of this is providing and promoting the use of zinc in the treatment of childhood diarrhea in partnership with host-nation efforts to scale up such intervention to reduce child mortality.

Another example of potentially relevant engagement that is of concern to both partner nations and DOD is traffic-related deaths. It is predicted that by 2030, traffic injuries will be the fifth leading cause of death. Already approximately 1.3 million people die due to traffic accidents each year, and an additional 20 million to 50 million are injured or disabled. Despite being home to fewer than 50 percent of the world's motor vehicles, low- and middle-income countries have 90 percent of the mortality burden for traffic accidents.[21] Traffic deaths are also a risk to U.S. Servicemembers while on deployment or otherwise serving abroad. Thus, there is the possibility

of direct benefit to the United States through engagement that promotes and implements proven interventions such as driver training, traffic calming mechanisms, and others that could lead to a reduction in the amount of traffic deaths and injuries.[22] Such engagement might come through exposure and diplomatic engagement with high-level policy leaders in a cross-sector setting such as transportation and urban planning in addition to health, or it might come through sharing driver safety programs for cars and/or motorcycles, like those used by DOD. Best practice in this area looks like a cross-governmental task force with ongoing expertise in surveillance of rates of crashes, injuries, deaths, speeding, seatbelt use, helmet use, and drunk driving. A good response includes all aspects of a health system that is much broader than clinical service delivery. The shift in global epidemiology has raised issues such as road safety and noncommunicable diseases to the forefront, and it is incumbent for DOD policymakers and strategists to adapt to this change.

Conclusion

Innovation often occurs during tragedy. The Ebola epidemic in western Africa in 2014 took steps toward exemplifying a whole-of-government health systems strengthening approach to GHE, particularly in Liberia. DOD provided an investment and committed military personnel to permanent infrastructure development, the U.S. Agency for International Development committed to train local providers, the U.S. Public Health Service sent health care providers, the CDC and DOD provided disease surveillance, and broad coordination occurred across U.S. agencies that included international and local NGOs. The U.S. Government committed $750 million toward the response, although the real total is likely to be considerably higher by the end of the engagement.

Such comprehensive approaches to the health systems building blocks, however, would benefit all manner of future global health engagements. DOD should work to capture best practices in health systems engagement so that it can move away from the days of poorly designed health activities that failed to coordinate with local governments and providers and led to little enduring benefit for the host nation or diplomacy.[23] The recent push toward organizational structure and programmatic support, as well as the development of models to capture effectiveness, are steps in the direction toward maximizing soft power from GHE.

Recent policy and structure changes within DOD lend themselves to taking a health systems approach and promote an ease of collaboration as highlighted during the response to the Ebola epidemic. Such steps are indeed promising, but a health systems approach and systems thinking that recognize the interaction between building blocks and incorporates service delivery, the health workforce, health information, medical technology, health financing, and leadership and governance should become a hallmark of all future DOD GHE. If it is true that for every $1 spent on diplomacy and development, $5 is saved in defense, then there is an even greater imperative to efficiently and effectively use the military for promoting diplomacy. However, DOD GHE should be aligned to policies, priorities, and perspectives among partner-nation policymakers, strategists, and agencies, as well as among international agencies to engender collaboration, cooperation, and stability. JFQ

Notes

[1] Aizen J. Marrogi and Saadoun al-Dulaimi, "Medical Diplomacy in Achieving U.S. Global Strategic Objectives," *Joint Force Quarterly* 74 (3rd Quarter 2014), 124–130; David Smith, "The DOD and Global Health Engagement," *USMedicine.com*, October 2014, available at <www.usmedicine.com/agencies/department-of-defense-dod/the-dod-and-global-health-engagement/>.

[2] Don de Savigny and Taghreed Adam, *Systems Thinking for Health Systems Strengthening* (Geneva: Alliance for Health Policy and Systems Research, 2009).

[3] Joshua Michaud, Kellie Moss, and Jennifer Kates, *U.S. Global Health Policy: The U.S. Department of Defense and Global Health* (Washington, DC: Kaiser Family Foundation, 2012).

[4] Ibid.

[5] World Health Organization (WHO), *Everybody's Business: Strengthening Health Systems to Improve Health Outcomes—WHO's Framework for Action* (Geneva: WHO, 2007).

[6] Ibid.

[7] Ibid.

[8] J. Christopher Daniel, *Global Health Engagement: Sharpening a Key Tool for the Department of Defense* (Washington, DC: Center for Strategic and International Studies, 2014).

[9] WHO, *Everybody's Business.*

[10] Aizen J. Marrogi, J. Fike, and Edwin Burkett, "The Role of Graduate Medical Education in the U.S. Global Health Engagement Effort," poster presented at Association of Military Surgeons of the United States, Washington, DC, December 2, 2014.

[11] Daniel.

[12] WHO, *Everybody's Business.*

[13] J. Stephen Morrison et al., *The Defense Department's Enduring Contributions to Global Health: The Future of the U.S. Army and Navy Overseas Medical Research Laboratories* (Washington, DC: Center for Strategic and International Studies, 2011).

[14] Ibid.

[15] Ibid.

[16] WHO, *Everybody's Business.*

[17] Tracey Pérez Koehlmoos et al., "Health Transcends Poverty: The Bangladesh Experience," in *"Good Health at Low Cost" 25 Years On: What Makes a Successful Health System?* ed. Dina Balabanova, Martin McKee, and Anne Mills (London: London School of Hygiene and Tropical Medicine, 2011).

[18] J. Stephen Morrison et al., *U.S. Navy Humanitarian Assistance in an Era of Austerity* (Washington, DC: Center for Strategic and International Studies, 2013).

[19] Michaud, Moss, and Kates.

[20] Marrogi and al-Dulaimi.

[21] WHO, "Fact File: 10 Facts on Global Road Safety," available at <www.who.int/features/factfiles/roadsafety/facts/en/index.html>.

[22] Tracey Koehlmoos, Shahela Anwar, and Alejandro Cravioto, "Global Health: Chronic Diseases and Other Emergent Issues in Global Health," *Infectious Disease Clinics of North America* 25, no. 3 (September 2011), 623–638.

[23] Morrison et al.

USS *Nimitz* conducts Tailored Ship's Training Availability and Final Evaluation Problem, which evaluates crew on performance during training drills and real-world scenarios, Pacific Ocean, November 2016 (U.S. Navy/Siobhana R. McEwen)

The Case for a Joint Evaluation

By Wilson T. VornDick

Active and Reserve Servicemembers spend in excess of 3 million hours (roughly 342 years) annually preparing, rating, reviewing, and socializing military professional evaluations up and down the chain of command before submission to their respective Services.[1] With almost 1.4 million Active-duty and 800,000 National Guard and Reserve personnel, the U.S. military stands as one of the largest assessment organizations in the world.[2] Yet each Service has its own stovepiped assessment system that essentially evaluates the same thing: identifying those most qualified for advancement and assignment to positions of increased responsibility. These systems appear to support this goal within their respective Services well enough, despite occasional evaluation overhauls.[3] Nevertheless, these disparate and divergent evaluation systems burden joint operations, distract from larger Department of Defense (DOD) personnel initiatives, degrade the joint force's ability to achieve national military objectives, and inefficiently expend limited resources. Furthermore, the highest military positions remain at the joint, interagency, and secretariat levels.

These critiques occur not only at evaluation time when raters and reporting seniors scramble to comprehend, fill out, and complete evaluations for their ratees per their respective Services' requirements and guidelines, but also when DOD and the joint force need

Commander Wilson T. VornDick, USN, serves on the Joint Staff J8 (Directorate for Force Structure, Resources, and Assessments).

Instructor administers OC spray during OC Spray Performance Evaluation Course, part of Non-Lethal Weapons Instructor Course, on Camp Hansen, Okinawa, Japan, August 2015 (U.S. Marine Corps/Thor Larson)

to identify skilled and competent Servicemembers for special programs and operational assignments, certify joint credit and qualifications, or fulfill and track DOD-wide personnel initiatives.[4] Recently, DOD has faced scathing criticism for its inability to hold the Services accountable during the performance evaluation process or monitor professionalism issues linked to ethics, gender issues, and command climate.[5] For their part, the Services have employed their evaluation systems to monitor some of these issues as well as others that may exist within their evaluation processes. For instance, the Marine Corps commissioned multiple studies over the last decade to assess the extent to which biases exist within officer evaluations based on occupation, race, gender, commissioning source, age at commissioning, marital status, type of duty (combat vs. noncombat), and educational achievement.[6] While these individual efforts are helpful, they could be better coordinated among the Services and joint force to arrest what are essentially shared, cross-Service personnel challenges.

Incongruent evaluation systems also degrade the ability of the joint force to face stated national military objectives more effectively. The *Capstone Concept of Joint Operations* stresses that "the strength of any Joint Force has always been the combining of unique Service capabilities into a coherent operational whole."[7] Moreover, the 2015 National Military Strategy elaborates that the "Joint Force combines people, processes, and programs to execute globally integrated operations," while "exploring how our [joint] personnel policies . . . must evolve to leverage 21st-century skills."[8] There is no reason why an evaluation system should not align with joint force leadership and operational doctrine. An integrated personnel evaluation system would be instrumental in achieving the goal for both the global integrated operations concept and national military objectives. Besides, enhanced jointness already exists within many military specialty communities that have similar performance measures, such as health care and medical services, special operations, chaplain corps, logistics, cyber, public affairs, electronic warfare, military police, intelligence, and engineering.

Finally, the comparative time expended by the combatant commanders (CCDRs) on fulfilling four different evaluation systems' requirements is inherently inefficient and amounts to what economists equate to lost productivity. Meanwhile, the Services spend millions of dollars annually on the personnel, facilities, and support systems required to administer these systems, even though many of the Services' core evaluation functions are shared and overlap. Combined, these diminish both short- and long-term efficiencies and resources. Regrettably, no comprehensive study has evaluated the U.S. military's myriad of personnel evaluation systems as a whole, nor has a study assessed the lost productivity and resources consumed in maintaining these separate regimes. DOD would better serve the CCDRs and operational commitments by coupling its human capital with a simple, efficient, standardized, and joint evaluation system: the Joint Evaluation System (JVAL). JVAL offers DOD and the CCDRs a

viable and valuable yardstick to measure personnel capabilities and capacities. But before highlighting possible constructs for JVAL or the methods in which it could be implemented, a broad look at the status quo of the four Service-centric evaluations is in order.

Status Quo of Service Evaluations

Across the Services, officers' careers generally begin with a focus on entry-level technical, managerial, and tactical skills, which steadily evolve into more senior-level supervisory, operational, and strategic skills as they progress along the career continuum. The intent of the various Service-centric evaluation systems is to capture that progression. But the mechanisms used to accomplish that task could not be more dissimilar. Each Service's evaluation system breaks away from the others in a variety of ways: the number of evaluations, scope, nomenclature, delivery, intent, language, content, format, length, and style, among others. Singling out the first five of these (number, scope, nomenclature, delivery, and intent) succinctly illustrates this point.

First, three of the Services (the Air Force, Navy, and Marine Corps) maintain a single, Service-related evaluation for officers and warrant officers (notwithstanding the Air Force) up to the O6 level.[9] In contrast, the Army uses three different evaluations to track its officer career continuum: company grade (O1-O3, WO1-CW2), field grade (O4-O5, CW3-CW5), and strategic grade (O6).[10] It is worth pointing out that the Marine Corps is the most inclusive of all the Services in number and scope since the same Performance Evaluation System (PES) form encompasses the ranks of E5 up to O6. Second, the nomenclature assigned by each Service is different: the Navy uses the Fitness Report (FITREP), Marine Corps the PES, Army the Officer Evaluation System (OES), and Air Force the Officer Performance Report (OPR). With regard to delivery, the Navy remains the only Service that does not have the capability for the evaluation form to be delivered in real time through a Web-based application and portal.[11] Instead, Navy evaluation reviewing officials are required to mail their rated FITREPs to Navy Personnel Command. This can delay the completion of the evaluation process by up to a week or more.

Finally, the intent with which the Services view their evaluation systems is markedly different. The 184-page Marines' *Performance Evaluation System* manual, the shortest among the Services, notes that the PES "provides the primary means for evaluating a Marine's performance to support the Commandant's efforts to select the best qualified personnel for promotion, augmentation, retention, resident schooling, command, and duty assignments."[12] Meanwhile, the expansive 488-page Army Pamphlet 600–3, *Commissioned Officer Professional Development and Career Management*, which incorporates the OES, echoes its sister Service's findings and further elaborates that evaluations can assist with functional description, elimination, reduction in force, and command and project manager designation.[13] Additionally, the Army leverages its OES to encourage the "professional development of the officer corps through structured performance and developmental assessment and counseling," as well as promoting the leadership and mentoring of officers in specific elements of the Army Leadership Doctrine.[14] After considering just these five differences, it appears that there is no overlap or commonality among evaluations. On the contrary, there is. These differences, along with the others mentioned earlier, become less apparent once the overall format and flow of the evaluation forms are compared.

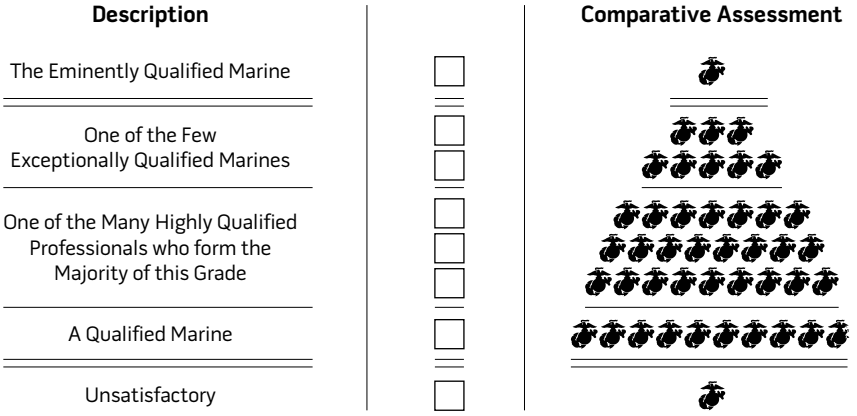
Are the Various Service Evaluations One and the Same? Each of the Services' evaluations can essentially be broken down into four general sections: a standard identification section, a measurements and assessment section (with or without substantiating comments), a section for rating official or reviewing official commentary and ranking of the ratee, and, finally, a redress or adverse remarks section. These sections are important because they are directly applicable to the proposed JVAL constructs to be described later.

Standard Identification. All of the Services begin their evaluation form with the same boilerplate administrative section. This section generally includes the ratee's name, social security number or DOD identification number, rank, period of evaluation, title, duty description, occupational designator, and unit assignment. Separately, the rater's and reviewing officials' relevant information is also included in this section.[15] The two key takeaways from this section are that the ratee is immediately identified by overall functional capability or category in either operations, operations support, or sustainment, and the rater and reviewing official are identified.[16]

Measurement/Assessment. This is the second most important of the four sections since it rates ratees' capabilities against their Service's performance standards through a variety of metrics. The Services are split evenly in their approach to the metrics portion between either a binary *yes* or *no* (for the Army and Air Force) or an ascending scale (ranging from 1 to 5 for the Navy and from *A* to *G* for the Marines).[17] The two most commonly shared traits for assessment among the Services are *character* and *leadership*. However, the actual count of trait-related performance metrics varies substantially from a high of 14 for the Marines' PES to a low of 6 for the Air Force's OPR.[18] For some Services, the performance metrics do not align or are excluded entirely. For example, physical fitness standards are not explicitly listed in Air Force or Navy evaluations. Instead, they are filled in by the ratee and verified by the rater in other areas of the evaluation.

The same is true for supporting commentary. For the Marines and Army, each performance metric is tied to corroborating commentary. This is not the case for both the Air Force and Navy, which have separate areas for commentary that are detached from their performance metrics rankings.[19] In either case, the commentary allows ratees the opportunity to describe and validate their performance in advantageous or disadvantageous terms (subject to any revisions by the raters or

Figure 1. Marine Corps "Christmas Tree"



reviewing officials). More importantly, this language even can note the ratees' rankings among a subsection of their peer group or among the entire peer group (otherwise known as a *hard* or *soft* breakout in the Navy's FITREP). It should be of no surprise that the Services have neither performance metrics nor commentary explicitly designated on their evaluations for joint force or DOD-related initiatives, such as joint professional military education and sexual assault prevention.

Rating Official/Reviewing Official Remarks. This is the most important section of the evaluation process because it includes a ranking scheme and competitive promotion category for the ratee. For rankings, each Service allows the rating official to rank or score the ratee against a subsection of the ratee's peer group or among the entire peer group. This is commonly referred to as *stratification*. The score presented to the ratee by the rater usually includes a *cardinal* number to denote the quantity of officers evaluated by the rater with a corresponding *ordinal* number for the ratee's rank among his or her peers. The rater's ranking profile (essentially the historical composite score of the rater's previous rankings) plays an important role later in establishing and tracking the ratee's relative score against those of the rater.

Rater profiles and scores remain a contentious issue among the Services because some raters' profiles and scorings may be immature, skewed, or, in the worst case, trend upward (known as inflation). Indeed, scoring inflation has been a systemic problem across all the Services. The Army has routinely revised its evaluations to tamp down on inflation, and the Marines commissioned studies to assess the extent to which grade inflation persists in the PES.[20] To combat ranking inflation, the Services have increased training for raters and instituted mandatory ceilings and floors for scoring and rankings. This has resulted in a significant reduction in overall inflation; however, the problem still exists and is actively monitored by the Services.

Finally, the Services have competitive promotion groupings under which the rater classifies the ratee. The Army's previous OER, DA Form 67-9, allowed the senior rater to mark the ratee as *Above Center of Mass*, *Center of Mass*, *Below Center of Mass Retain*, and *Below Center of Mass Do Not Retain*. In the PES, the reviewing official marks the ratee for comparative assessment using the Marines' iconographic "Christmas Tree" with *the Eminently Qualified Marine* at the top of the "tree" to *Unsatisfactory* at the bottom (see figure 1). The Navy has five promotion categories ranging from *Significant Problems* to *Early Promote*, whereas the Air Force has three: *Definitely Promote*, *Promote*, and *Do Not Promote*.[21]

Redress/Adverse Remarks. The final section is reserved for an acknowledgment statement by the rater and provides the opportunity for the ratee to challenge or appeal any portion of the evaluation with supporting documentation. Unless additional documentation is submitted, this is the shortest section for each of the Services' evaluations. It is worth noting that the Services unanimously point out that the evaluation forms are not to be used as a counseling tool under any circumstances.

Evaluations Remain a Pyramidal Scheme. The purpose of highlighting these four sections is to point out the significant commonalities among the Services' evaluation systems. Evaluations remain an understated and underappreciated, if not uniformly shared, responsibility among the Services. Regardless of their differences, these systems all seek the same goal: to identify those officers most qualified for advancement and assignment to positions of increased responsibility. Army Pamphlet 600–3, *Commissioned Officer Professional Development and Career Management*, is spot on when it describes the officer evaluation structure as "pyramidal" with an "apex" that contains "very few senior grades in relation to the wider base."[22] Furthermore, Pamphlet 600–3 notes that advancement within this pyramid to increasingly responsible positions is based on "relative measures of performance and potential" and evaluations are the "mechanisms to judge the value of an individual's performance and potential."[23] This is as true for the Army as it is for the joint force. As such, all the Service-centric officer evaluations are prime for rollup into JVAL.

JVAL Constructs

Unifying four dissimilar evaluation systems is no small task. Ostensibly, it is unlikely that the Services will surrender their traditional roles and responsibilities in the personnel domain. However, JVAL is not mutually exclusive. The beauty of the JVAL construct is that it can be incorporated piecemeal or as a whole by the Services and joint force. JVAL's constructs allow the Services to tier or scale their respective evaluation systems through three main approaches: joint-centric, Service-centric, or hybrid.

Joint-Centric. This is the most dynamic and efficient approach to JVAL, as it rolls all the Services' evaluation systems

into one unified evaluation system. The format and template for the joint-centric construct would align with the four de facto sections noted earlier: an identification section, a performance metric section matching substantiating commentary, a rater assessment section with ranking and promotion category, and a redress or adverse remarks section. Out of these four sections, selecting the performance metrics from the four current evaluations systems likely will present the greatest challenge to finalizing the joint-centric template. Likewise, the distinctive Service formats, styles, and delivery methods will need to be addressed. However, these can be properly vetted during the implementation stage to be described later. One idea for the comparative assessment portion could incorporate a pictogram of a star, similar to the Marines' "Christmas Tree," with five competitive categories from highest to low: *Exceeds Standards*, *Above Standards*, *Meets Standards*, *Progressing*, and *Below Standards* (see figure 2).

The two most important features that the joint-centric construct offers are the method of delivery and the short- and long-term gains in efficiencies and resources associated with implementing one evaluation system. The joint-centric construct envisions delivery through a secure, Web-enabled portal and application. This capability would not only allow JVAL to be readily completed, socialized, reviewed, and submitted, but also permit DOD, the joint force, and the Services to readily access, search, and analyze their personnel's performance and capabilities. At the same time, DOD would be able to directly propagate and measure DOD-wide initiatives and policies. JVAL might even be used to create a repository of profiles to track skill sets, personnel progression, and assignments by the entire joint force and Services. JVAL could become a clearinghouse for personnel evaluations in the same way Defense Finance and Accounting Services has with military pay and finances.

Finally, by combining the four Services' evaluation-related personnel, facilities, and support systems, DOD would realize millions of dollars in costs savings annually, take back lost productivity, and increase efficiencies. Right-sizing personnel, facilities, and support systems is relatively easy to quantify in budget terms. However, efficiencies are tricky to ascertain since many are intangible or have not been properly researched. For example, under one evaluation system, a Servicemember's separation or retirement into a post-military career would be less intimidating and more transparent if a standardized performance measure existed for potential employers and the transitioning veteran to gauge their skills.[24] Second, inter-Service transfers, augmentation by Reserve and Guard personnel, and joint task force mobilizations would be more seamless if a shared evaluation system existed by which to measure personnel capabilities. Finally, it would alleviate the need, however minor, for Service-specific raters and reviewers within organizations.

Service-Centric. Under the Service-centric construct, the Services would retain full control of their current evaluation systems. However, the Services' evaluation systems and information would be fed directly into the larger joint force– and DOD-supported JVAL. The main difference would be that there would be two parallel systems working in tandem: the traditional Service evaluation system and the new JVAL. The critical component for this approach would be that the actual inputs selected for inclusion into JVAL from the Services' systems would need to be vetted and scaled by all parties in order to populate the agreed-upon JVAL template. In this case, JVAL would resemble the template and delivery envisioned for the joint-centric construct, but with an additional bureaucratic and operational layer at the joint force and DOD level to maintain the JVAL evaluation process. As a result, the Service-centric construct would be the least dynamic and efficient approach to JVAL.

Hybrid. As its name implies, the hybrid construct merges selected portions from both the joint- and Service-centric models. These portions could be combined in any number of ways. One possible combination might divide evaluations by rank so that junior and warrant officer evaluations (WOs/O1-O4) would fall under the Service-centric approach and senior officer evaluations (O5-O6) under the joint-centric one. This combination would sync well with the existing officer career progression that places senior officers in more joint roles and responsibilities over time. Thus, efficiencies and cost savings could be divided between the Services, the joint force, and DOD. Finally, the hybrid construct would be an ideal intermediary point between both JVAL extremes (joint and Service) or act as an incremental stopping point before fully adopting the joint-centric approach. In any event, these three proposed JVAL constructs will achieve a more holistic and unified approach to officer evaluations in lieu of the status quo. Unfortunately, there is no JVAL-like program under consideration.

Figure 2. Star Pictogram

Current Reforms Omit JVAL

DOD unveiled one of the most significant personnel initiatives in a generation, Force of the Future (FotF), in 2015.[25] Although FotF unleashed a cascade of Service-related personnel reforms from retirement to promotion schedules to diversity alongside a host of corresponding Service-specific programs, such as the Department of the Navy's Talent Management, FotF omitted evaluation reform.[26] This is an unfortunate omission among the myriad of novel proposals encapsulated in FotF because its launch provided an opportune moment to address the disjointed and disparate Service-centric evaluation systems.[27] Besides, DOD began phasing in its new civilian employee performance and appraisal program around the rollout of FotF. New

Pacific Fleet Master Chief inspects chief selectees at group PT session on Naval Air Facility Atsugi, Atsugi, Japan, August 2011 (U.S. Navy/Justin Smelley)

Beginnings started April 1, 2016. The first phase incorporated about 15,000 employees at a handful of locations, including the National Capital Region, with additional phases to integrate most of the remaining 750,000 DOD civilian employees by 2018.[28] Taking a page from FotF and New Beginnings, DOD could pursue a similar top-down approach to implement JVAL. However, this approach would likely require congressional legislative changes to Title 10, reinterpretation of existing Title 10 authorities, or Presidential directives that challenge the Service's hegemony over personnel evaluations.

Haven't the Services Always Rated Themselves? The military Service secretaries traditionally have been responsible for "administrating" their Service personnel under Title 10, and, reciprocally, the Services have codified this within their respective regulations.[29] For example, the Department of the Navy's General Regulations state explicitly that the "Chief of Naval Operations and the Commandant of the Marine Corps shall be responsible for the maintenance and administration of the records and reports in their respective services."[30] On the other hand, Title 10 also grants the Under Secretary of Defense for Personnel and Readiness (USDP&R), per the Secretary of Defense, to prescribe in the "areas of military readiness, total force management, military and civilian personnel requirements, and National Guard and reserve components" with the Assistant Secretary of Defense for Manpower and Reserve Affairs overseeing supervision of "Total Force manpower, personnel, and reserve affairs."[31] While there appears to be no previous challenge to these statutory delineations with regard to evaluation policies, any changes would certainly engender pushback from the Services.

Language could be inserted within the congressional National Defense Authorization Act to include JVAL or to reassign personnel roles and responsibilities in light of these possible statutory limitations. In the alternative, there are a variety of internal and external options for DOD to institute JVAL without resorting to seismic revisions in extant laws, such as inter-Service memorandums of agreement, Joint Chiefs of Staff instructions, and Office of the Secretary of Defense policy directives to expand FotF. Reinterpreting Title 10 authorities could be another option. The Chairman of the Joint Chiefs of Staff does have broad Title 10 powers that include "formulating policies for concept development and experimentation for the joint employment of the armed forces."[32] As noted, it is unlikely that the Services will surrender their personnel systems so easily. This is precisely why DOD and the joint force need to incentivize the Services through the efficiencies, cost savings, and overall personnel readiness that JVAL offers.

JVAL Implementation. Once approved, the most realistic approach for implementing JVAL would be for DOD to identify the USDP&R with the overall responsibility and assign one of its principals or deputies to act as the executive agent.[33] To carry out that responsibility, the executive agent would then establish three standing groups: the Executive Steering Group, Senior Advisory Group, and Joint Integrated Process Team. Consisting of Senior Executive Service civilians and senior flag officers, each group would have its own unique set of tasks and responsibilities in order to plan, support, collaborate, and implement JVAL in a time-phased approach. An initial pilot program would be recommended, and, if successful, would transition into a rollout period of 3 to 4 years. This rollout period would coincide with policy and regulation revisions, strategic communications, system development, realignment of infrastructure and facilities, right-sizing of personnel, transfer of previous evaluations, and deployment of mobile training demonstrations and teams. At that time, JVAL could be expanded to include general and flag officers as well as the enlisted ranks. This long and complex method is preferable for DOD because it allows the Services the opportunity to properly uncouple previous personnel-related regulations and systems, address grievances, assuage concerns, build consensus, and evaluate and execute JVAL.

Redress or Adverse Remarks?

JVAL would be a monumental shift in the way DOD, the Services, and the joint force historically have handled personnel. While instituting the cross-Service JVAL is not without its challenges, it is within the capability and capacity of DOD. The incentives to make the shift to JVAL are real. Secretary of Defense Ashton Carter recently acknowledged at Harvard University that "we have

a personnel management system that isn't as modern as our forces deserve."[34] JVAL is that modern system, and DOD should implement it. Evaluations can be one more way to realize a more inclusive and accessible joint experience. JFQ

Notes

[1] Calculation based on typical annual evaluation completed by a Servicemember with the addition of a one-third multiple to include infrequent evaluations related to promotion, special evaluations, separation, transfer, and relief of superior.

[2] Office of the Under Secretary for Personnel and Readiness, "About," available at <http://prhome.defense.gov/About.aspx>; Department of Defense (DOD), "DOD Personnel, Workforce, Reports & Publications," available at <www.dmdc.osd.mil/appj/dwp/dwp_reports.jsp>.

[3] The Army conducted the most recent evaluation reform and update to the DA Form 67-10 series in 2014 after 17 years using the previous DA Form 67-9 series.

[4] For the purposes of this article, DOD is synonymous with the Office of the Secretary of Defense and military-civilian leadership. Additionally, the Services differ in the number and title for their respective evaluators. Therefore, rater, rating official, and reviewing official will be used to designate the evaluator.

[5] U.S. Government Accountability Office (GAO), *Additional Steps Are Needed to Strengthen DOD's Oversight of Ethics and Professionalism Issues*, GAO-15-711 (Washington, DC: GAO, September 2015), available at <www.gao.gov/products/GAO-15-711 GAO-15-711>.

[6] Adam Clemens and Shannon Phillips, *The Fitness Report System for Marine Officers: Prior Research* (Washington, DC: Center for Naval Analyses [CNA], November 2011); Adam Clemens et al., *An Evaluation of the Fitness Report System for Marine Officers* (Washington, DC: CNA, July 2012).

[7] *Capstone Concept for Joint Operations: Joint Force 2020* (Washington, DC: The Joint Staff, September 10, 2012), 16, available at <http://dtic.mil/doctrine/concepts/ccjo_jointforce2020.pdf>.

[8] *National Military Strategy of the United States 2015* (Washington, DC: The Joint Staff, June 2015), 13, available at <www.jcs.mil/Portals/36/Documents/Publications/2015_National_Military_Strategy.pdf>.

[9] Respectively, AF Form 707, NAVPERS 1610/2, and NAVMC 10835.

[10] Respectively, DA Forms 67-10-1, 67-10-2, and 67-10-3.

[11] The Navy plans to unveil a Web-based version of its evaluation writing software, *e*NAVFIT, in a few years.

[12] Department of the Navy Marine Corps Order P1610.7F Ch 2, *Performance Evaluation System* (Washington, DC: Headquarters United States Marine Corps, November 19, 2010), 2, available at <www.hqmc.marines.mil/Portals/133/Docs/MCO%20P1610_7F%20W%20CH%201-2.pdf>.

[13] Department of the Army Pamphlet 600–3, *Commissioned Officer Professional Development and Career Management* (Washington, DC: Headquarters Department of the Army, December 3, 2014), 5, available at <www.apd.army.mil/pdffiles/p600_3.pdf>.

[14] Ibid.

[15] The Navy FITREP only has one rater, the reporting senior, unless it is a concurrent report.

[16] This approach is borrowed from the Army. See Department of the Army Pamphlet 600–3, 11. Other Services have a similar construct. For example, the Navy breaks its officers into restricted line, unrestricted line, and staff categories.

[17] The Yes/No portion for the Army takes place during the counseling phase. For the Navy and Marines, 0 and H refer to a non-observed trait, respectively.

[18] See NAVMC 10835 (Marines) and AF Form 707 (Air Force).

[19] Unlike the other three Services, the Navy's FITREP only has one comments section, which is to be completed by the ratee for review by the rater. On the other hand, the Air Force has one more comments section than the Navy. This second comments section is reserved for an additional rater's commentary.

[20] Noted in internal presentation by U.S. Total Army Personnel Command (now Human Resources Command) to the Army G1 entitled *Officer Evaluation Reporting System*. For the Marines, see CNA, *The Fitness Report System for Marine Officers: Prior Research* and *An Evaluation of the Fitness Report System for Marine Officers*.

[21] *Officer and Enlisted Evaluation Systems* (Washington, DC: Headquarters Department of the Air Force, January 2, 2013), 49, available at <http://static.e-publishing.af.mil/production/1/af_a1/publication/afi36-2406/afi36-2406.pdf>.

[22] Department of the Army Pamphlet 600–3, 10.

[23] Ibid.

[24] U.S. Department of Veterans Affairs, "Transition Assistance Program," available at <http://benefits.va.gov/VOW/tap.asp>.

[25] DOD, "Force of the Future [FotF]," available at <www.defense.gov/Portals/1/features/2015/0315_force-of-the-future/documents/FotF_Fact_Sheet_-_FINAL_11.18.pdf>. For 2016 FotF initiatives, see Cheryl Pellerin, "Carter Unveils Next Wave of Force of the Future Initiatives," *DOD News*, June 9, 2016, available at <www.defense.gov/News-Article-View/Article/795625/carter-unveils-next-wave-of-force-of-the-future-initiatives>.

[26] Department of the Navy, "Talent Management," available at <www.secnav.navy.mil/innovation/Documents/2015/05/TalentManagementInitiatives.pdf>.

[27] Once initiated, FotF did face significant congressional scrutiny as Assistant Secretary of Defense for Manpower and Reserve Brad Carson was replaced by Peter Levine after 1 year. See Jory Heckman, "Leading Defense Adviser Tapped to Be New Personnel Chief," *Federal News Radio*, March 31, 2016, available at <http://federalnewsradio.com/people/2016/03/leading-defense-adviser-tapped-to-be-new-military-personnel-chief/>.

[28] Eric Yoder, "Defense Department Begins New Employee Performance Rating System," *Washington Post*, April 1, 2016, available at <www.washingtonpost.com/news/powerpost/wp/2016/04/01/defense-department-begins-new-employee-performance-rating-system/>.

[29] U.S. Code 10, § 5013 with regard to the roles and responsibilities of the Secretary of the Navy.

[30] Department of the Navy, *General Regulations*, Chapter 11, Section 3, Article 1129, Records of Fitness, available at <https://doni.daps.dla.mil/US%20Navy%20Regulations/Chapter%2011%20-%20General%20Regulations.pdf>.

[31] U.S. Code 10, §§ 131, 136, and 10201.

[32] U.S. Code 10, § 153.

[33] Mirroring Title 10 roles and responsibilities, the Assistant Secretary of Defense for Manpower and Reserve Affairs would be the most likely candidate.

[34] DOD, "News Transcript: Discussion with Secretary Carter at the John F. Kennedy Jr. Forum, Harvard Institute of Politics, Cambridge, Massachusetts," December 1, 2015, available at <www.defense.gov/News/News-Transcripts/Transcript-View/Article/632040/discussion-with-secretary-carter-at-the-john-f-kennedy-jr-forum-harvard-institu>.

Left to right, Henry H. Arnold, Joseph T. McNarney, George C. Marshall, Brehon B. Somervell, and Lesley J. McNair (NDU Special Collections)

Leadership and Operational Art in World War II

The Case for General Lesley J. McNair

By Christopher J. Lamb

The U.S. Army's reputation for effectiveness during World War II has not fared well over time, particularly regarding the European theater of operations. This is surprising given what the Army accomplished. Just to refresh the reader's memory, the United States went to war with a small, impoverished Army that conducted maneuvers with wooden weapons and borrowed vehicles in the years leading up to World War II. Yet within 12 months of Germany declaring war on the United States, the Army invaded North Africa and knocked Vichy French forces out of the war. In another 12 months, it knocked Italy out of the war. And 12 months later, the Army was on the border of Germany, having just defeated Adolf Hitler's last-gasp effort to stop the Allied onslaught.

Nevertheless, these achievements seem to have diminished over time. By way of illustration, ask any military officer which of the following factors best explains U.S. victories in the European theater during World War II:

- Army leaders executed an organizational miracle in quickly creating competent armies that won a series of victories from North Africa to the heart of Germany.
- The Russians did the preponderance of fighting, leaving an exhausted Wehrmacht to be mopped up by the relatively incapable Army.
- The American people tightened their collective belt so U.S. and Russian forces together could overwhelm the German military with vastly superior numbers of . . . well, everything!

Fifty years ago, most readers would have chosen the first statement; today, few would. This sad fact is one reason all serious students of U.S. military performance should read Mark Calhoun's new biography *General Lesley J. McNair: Unsung Architect of the U.S. Army.*

Dr. Christopher J. Lamb is a Distinguished Research Fellow in the Center for Strategic Research, Institute for National Strategic Studies, at the National Defense University.

"Should" is the key word, for as Calhoun points out, McNair is often overlooked or maligned by historians and even those within the Army to which he dedicated his life.

There are several reasons why McNair is not much appreciated today. Most immediately, he spent most of his career in staff assignments rather than commanding forces in the field. For many observers this fact alone disqualifies McNair as a subject worthy of serious study. Even Calhoun's colleagues at the Army's School of Advanced Military Studies, where he is an associate professor, advised against his researching McNair. Most military historians seem to agree there is little to learn from McNair since they ignore or disparage McNair without actually bothering to research his career and decisions. More broadly, Calhoun suspects the lack of interest in McNair's career reflects the currently prevailing view that the U.S. Army performed poorly in World War II and that the United States only won the war by sharing astounding materiel abundance with its Allies. Some go even further, and argue the richly supplied Army was relatively incapable even compared to a war-weary Wehrmacht *because* it was led by men like McNair who got more wrong than they got right when preparing the Army for war.

Calhoun was undeterred by these narratives and his colleagues' recommendation, and the result is a superb biography that contributes to the growing literature that challenges the reigning scholarship on Army performance in World War II. It is puzzling that McNair, a man so respected by leaders as diverse as Generals John Pershing and George Marshall, should fall into disrepute. Our Allies, and even our enemies, had much better things to say about McNair's work than contemporary historians. Keenly aware of how isolationist sentiments kept the Army prostrate during the interwar years, both friends and foes were shocked by its sudden emergence as a global force.

Winston Churchill considered the sudden rise of the U.S. Army "a prodigy of organization." He thought the mass production of divisions was an unparalleled "spectacle":

I saw the creation of this mighty force—this mighty Army, victorious in every theater against the enemy in so short a time and from such a very small parent stock. This is an achievement which the soldiers of every other country will always study with admiration and with envy. But that is not the whole story, nor even the greatest part of the story. To create great Armies is one thing; to lead them and to handle them is another. It remains to me a mystery as yet unexplained how the very small staffs which the United States kept during the years of peace were able not only to build up the Armies and Air Force units, but also to find the leaders and vast staffs capable of handling enormous masses and of moving them faster and farther than masses have ever been moved in war before.[1]

Churchill attributed the Army's triumph of organization and arms to its professional officer corps, who were "able to preserve the art not only of creating mighty armies almost at the stroke of a wand—but of leading and guiding those armies upon a scale incomparably greater than anything that was prepared for or even dreamed of."

America's enemies were also surprised by the Army's achievement. Erwin Rommel is often cited in this respect. The renowned German general acknowledged the Americans could not be compared to his own veteran troops but drew little consolation from his early victory over the Army at Kasserine Pass in North Africa. He stated the Americans "made up for their lack of experience by their far better and more plentiful equipment and their tactically more flexible command," noting that "the tactical conduct of the enemy's defense had been first class. They had recovered very quickly after the first shock and had soon succeeded in damming up our advance." After D-Day, Rommel was even more impressed and, like Churchill, attributed the success to stellar leadership: "The leaders of the American economy and the American General Staff have achieved miracles," and "the organization, training, and equipment of the U.S. Army all bear witness to great imagination and foresight." He claimed:

European generals of the old school could certainly have executed the invasion with the forces available, but they could never have prepared it—neither technically, organizationally, nor in the field of training. The functioning of the Allied fighting machine, with all its complexity, surprised even me, and I already had a fairly high opinion of their powers.

Calhoun explains how the Army achieved its successes and why they are now so roundly dismissed. In answering the latter question he rebuts supercilious British historians and generals who, he believes, have skewed the historical record. He cites Gerhard Weinberg's observation about British disappointment in American performance at Kasserine: "It is difficult to understand," Weinberg stated, why the British "found it so hard to comprehend that the Americans' taking several months to learn what it had taken [the British] army and its leaders three years" to learn "was a good, not a bad, sign for the Allied cause."

Calhoun also aligns his work with growing scholarship that questions the "material preponderance thesis," arguing that the Soldiers who:

fought their way across Western Europe to defeat Germany did so in the face of disadvantages that make the material preponderance argument seem like fantasy [and did so against] *a tenacious . . . German army that remained a competent and determined foe, fighting to protect its homeland and benefiting from shorter lines of communication and increasingly compact front lines.*

Calhoun reviews the literature on comparative combat effectiveness of U.S. and German units, citing some recent studies arguing the Army bested the Wehrmacht when they met on equal terms. He believes men like General McNair were largely responsible for the solid Army performance:

The U.S. army could and did stand toe to toe against the German army and win, in battle after battle and campaign after campaign, [which] *resulted largely from*

the army's logical organization and sound doctrine, as well as the arduous training that helped American citizen-soldiers learn this doctrine and overcome their lack of combat experience.

Calhoun knows he has an uphill battle in challenging the established view of Army performance but optimistically asserts that "careful research and compelling arguments can eventually change even the most well-entrenched narratives."

To this end, Calhoun makes a comprehensive case for a reappraisal of Army performance while charting McNair's career path in detail. His case does not rest on the ad hominem argument that biased British commentators have dominated World War II scholarship, or even on the awkward and ultimately less-than-relevant comparisons of the relative combat effectiveness of individual U.S. and German divisions. Instead, his argument for a reappraisal of Army World War II performance has three main elements, all of which emphasize operational factors.

First, he emphasizes just how handicapped the Army was in terms of human and material resources before and during the war. Most readers know the Army was small and inadequately equipped before the war. They may even know that British observers of Army prewar maneuvers declared it would be outright murder to send American troops against the Germans. But readers may be surprised to discover how much President Franklin D. Roosevelt deprived the military in the years leading up to World War II (for example, cutting officer pay by 15 percent while requiring Army officers to run Civilian Conservation Corps programs that had to avoid any semblance of military ethos for the participants). General Marshall could not get the President to take even a 40-minute drive to Fort Belvoir to observe Army ground training before the war.

Readers also may be surprised to discover that Americans did *not* tighten their belts to enable the arsenal of democracy to overwhelm the Axis powers with American abundance. On the contrary, "consumer spending in America went up (as a percentage of GDP) every year of the war." For this startling tidbit and other aspects of the national economic mismanagement of the war, Calhoun relies on compelling scholarship by Jim Lacey.[2] Americans wanted guns and butter and they got them, but at some cost to the Army, which endured personnel and material shortages that affected Army force design and mobilization plans. The Army halted most weapons development programs in 1936, and they were not resumed until 1939 or 1940. When resources did begin to flow the Army was disadvantaged in favor of air and naval power because U.S. leaders like Roosevelt believed World War II would be a "war of machines rather than men."

The Army also suffered acute personnel shortages. With only 5 percent of volunteers opting to serve in infantry or armor, the Army was short 330,000 men by September 1942. Manpower limitations help explain the lack of a rotation base for infantry divisions and the practice of feeding individual replacements into frontline units, which produced many quick casualties. Low-quality recruits were another limitation McNair had to deal with. The Army received a grossly disproportionate share of the lowest quality recruits in terms of size, health, and intelligence. Even more surprising is the extent to which the Army allocated the small percentage of high-quality recruits it did receive to Army Service Forces and Army Air Forces (McNair's competitors for resources) on the grounds that operating their equipment demanded better personnel.

These air and support units hogged resources while doing their best to remain independent of McNair's Army Ground Forces, which bore the brunt of tough missions and casualties; this was an organizational imbalance that Calhoun gently insists must be laid at Marshall's feet. Shipping was also a limiting factor for the Army. Marshall told Roosevelt in January 1943 that the Army could replace personnel more easily than lost shipping. Even America's Allies sometimes seemed to take precedence over McNair's Army Ground Forces. As another source relates, the 1st Armored Division fought in North Africa in late 1942 with light, under-gunned tanks while the British at El Alamein several months earlier had enough new U.S. M4 Sherman medium tanks to equip an entire armored division.[3] Calhoun argues McNair understood the impact of all these key shortages and limitations well before other officers, and necessarily adjusted force design to emphasize efficiency as well as effectiveness.

The second element in Calhoun's case is how, despite the neglect and second-class status, Army leaders such as Generals McNair, George S. Patton, and Albert C. Wedemeyer studied the German military and built an impressive force that proved equal to the task of defeating the Wehrmacht on its own turf at the end of extended American lines of communication. Army officers learned a great deal from World War I, but mostly how unprepared the Nation was for modern warfare. They knew that if the United States was to avoid the stunning losses the American Expeditionary Forces suffered in the Meuse-Argonne Offensive (more than 100,000 casualties in 47 days of fighting), the Army needed a new doctrinal foundation and training regime. McNair was able to resolve ongoing controversy over the design, size, and composition of Army divisions when others could not, earning Marshall's moniker as "the brains of the army." McNair was able to push out 14 divisions in 1942, 16 more in 1943, and 48 more in 1944 before hitting the wall with a mere 8 divisions in 45. Because of McNair, Calhoun argues, the Army "deployed to combat well-trained, in logically organized units, with a mechanized combined arms doctrine that proved appropriate to the World War II battlefield."

An interesting aspect of Calhoun's case for superior Army performance that distinguishes him from most of the other so-called revisionist historians is his emphasis on learning as opposed to adaptation. Calhoun notes that, intentionally or not, many of these historians leave readers with the impression that "the U.S. Army faced a situation for which it lacked the appropriate training, equipment, and leadership—yet somehow it

possessed a unique ability to find novel and innovative approaches to fight and thereby overcome its many limitations." In contrast, Calhoun argues the primary way the Army succeeded was by "learning how to fight as it was trained, organized, and equipped" to do so. Certainly this was McNair's view of what success required. He put little stock in the wartime propaganda that assured the American public that the creative, adaptive spirit of free citizen-soldiers would invariably defeat the goosestepping automatons of the Third Reich. McNair put his faith in realistic training and did his best to provide it, knowing such training could favorably flatten and shorten the learning curve Soldiers would invariably experience in real combat. Calhoun makes a strong case that McNair succeeded and that the Army learned from training and combat how to execute its doctrine to good effect. It did not have to "adapt" its doctrine on the fly to defeat the Germans.

The third part of Calhoun's case is that Army performance must be judged with operational as well as tactical and strategic criteria. Historians who focus on the strategic level of war are impressed by the casualties the Russians absorbed and inflicted on the Germans, and the role U.S. material support played in Russian success. Calhoun does not think these facts should blind historians to the reality that Eisenhower's operational strategy accurately accounted for U.S. strategic advantages and limitations, which were reflected in the way the Army was organized, trained, equipped, and employed. Albeit widely interpreted now as too timid, Eisenhower's operational strategy of maintaining pressure all along the Western front and not overextending the line in a salient that would invite German counterattack was successful. Eisenhower understood that fragile coalition unity—easily ruptured by military reverses—was an imperative. He also understood that because of limited Army resources, the large numbers of U.S. troops pouring onto the Western front were increasingly ill-trained and at the end of a fragile supply chain. Calhoun's response to the armchair generals who argue with success is that Eisenhower was correct to "doggedly adhere to [his broad front strategy] despite some subordinates' desire to pursue a more aggressive operational approach." It ensured, Calhoun states, "the logistical sustainability of Allied operations—a skill the Wehrmacht never mastered, despite the boldness of its commanders and its impressive tactical prowess."

Upon his arrival in Washington, General Ben Lear (left) greets injured General McNair (NDU Special Collections)

If some commentators focus too much on the strategic setting and ignore logistical and other operational constraints, others make an even greater mistake by focusing singularly on German tactical excellence, according to Calhoun. The battle at Kasserine Pass is a case in point. Calhoun argues that viewed as a months-long campaign, American forces learned from early tactical reverses, employed their doctrine and training, and emerged victorious.

As for individual weapon systems, many historians consider it shocking that U.S. tanks and antitank weapons were inferior to the best German models. Given the paucity of funding and lack of preparedness prior to World War II, it is surprising that American weapons were not outclassed more often. Army leaders understood their subordinates' frustration with their less-capable weapons. Eisenhower early on "ordered Patton to conduct demonstrations of the M3 Stuart light tank penetrating the armor of captured German Panzer IVs to improve his troops' confidence in the 37mm gun." But McNair knew the 37-mm antitank weapon was underpowered, and said so. As Calhoun notes, McNair did not control the Army Ordnance Department or establish broader resource priorities.

Lesley J. McNair in his office at the Army War College (NDU Special Collections)

According to Calhoun, "The limitation in American production and shipping capacity that made fielding new weapon systems particularly challenging" was something Army leaders like McNair had to live with. New and better tanks and tank destroyers were delivered late in the war but McNair had to construct a doctrine and training regime based on what he had and not what he hoped he might receive at some point.

That doctrine emphasized combined arms and maneuver, which helps explain the lack of a heavy tank equal to what the Germans fielded. Calhoun argues that a conscious decision was made to go with the reliable and fast Sherman as part of a combined arms package that worked well until the later stages of the war when the Germans deployed their heaviest tanks. Heavy tanks and their onerous support requirements could not be delivered in time by Army Ordnance and would have imposed logistical burdens at the expense of other critical elements of the combined arms package, which, taken as a whole, did a good job of destroying German tanks of all sizes. Artillery, airpower, and antitank weapons were intended to be the primary means of killing enemy tanks. Thus, according to Calhoun, Army Ground Forces "possessed combined arms doctrine, organizations, and equipment that made it superior to the Wehrmacht in combat effectiveness, despite the threat posed by German heavy tanks." He cites Eisenhower in this regard, who reported that "in pieces of artillery, the enemy has lost eight to our one [and] we have knocked out twice as many tanks as we have lost."

Calhoun explains how McNair's entire career prepared him well for the task of fielding and training Army divisions in combined arms warfare. He excelled in diverse assignments but especially took advantage of his educational opportunities. While teaching Reserve Officer Training Corps (ROTC) courses at Purdue University, he published influential articles on military affairs. He also debated Christian pacifists who wanted to end ROTC and foreswear all military preparedness, arguing they practiced "treason under the guise of religion." Later his research at the Army War College was considered to be of "exceptional merit" and forwarded by the commandant to the War Department. Still later, Marshall handpicked McNair to serve as commandant of the Army's Command and Staff College because he wanted its methods and curriculum updated, which McNair did, advancing Army doctrine in the process. McNair made the most of all these opportunities to evaluate and better understand the mobile, mechanized warfare that he and other Army generals fully expected would characterize the coming war in Europe.

Prejudice against staff assignments and staff-heavy careers notwithstanding, anyone who reads Calhoun's book will likely conclude McNair was a quintessential "soldier's soldier." He was taciturn, formal, disciplined, physically fit, energetic, and faithfully implemented decisions by his superiors without complaint whether he agreed with them or not. He did not play office politics, build a cult of personality, or seek attention from the press. In fact, he became more reserved and more focused on his work over time, in large part because of his poor hearing, which deteriorated over the course of his career and contributed to social isolation, but which he accepted matter-of-factly.

McNair deplored large staffs. He believed they skewed the tooth-to-tail ratio and shifted the collective burden to the relative few on the frontlines. He made sure General Marshall knew infantry made up 11 percent of Army personnel but suffered 60 percent of the casualties during the campaign in Italy, and could not make rapid headway because the frontline Soldiers were grossly outnumbered by their support troops. Worldwide, during the first half of 1944, Army Ground Forces took 83 percent of the casualties while only constituting 35 percent of U.S. forces. McNair believed that "American soldiers were sustaining avoidable casualties . . . because their natural leaders (of course, with exceptions) sat at desks or tended machines well behind the lines." This greatly upset McNair, who made a point of keeping his hard-working staff minuscule and all Army Ground Force overhead positions lean compared to the bloated staffs his competitors built up in Army Service Forces and Army Air Forces. By 1945 the percentage of McNair's Army Ground Forces in overhead positions was 4.1 percent compared to 22.9 and 32.2 percent for Army Service Forces and Army Air Forces, respectively.

McNair was a straight talker. Years before Patton made his colorful speeches to the 3rd Army in 1944, McNair gave the

entire Army and the Nation a "blood and guts" speech on Armistice Day, December 1, 1942. He told his audience, "It is the avowed purpose of the Army to make killers of all of you." He stated that Soldiers had to make a "fiendish transformation" and "hate more and more," and that "those of you who do not hate now are going to do so later." He explained that although war kills by fire so far as possible, "modern war" also required close combat and even hand-to-hand combat for final victory against a determined enemy. He did not want any illusions about fighting antiseptically with detachment:

Our soldiers must have the fighting spirit. If you call that hating our enemies, then we must hate with every fiber of our being. We must lust for battle; our object in life must be to kill; we must scheme and plan night and day to kill. . . . Since killing is the object of our efforts, the sooner we get in the killing mood, the better and more skillful we shall be when the real test comes. The struggle is for survival—kill or be killed.

McNair noted that polling reportedly indicated that:

One half of you expect the war to end within two years. But your reason must tell you that it will end only when you finish it. If you intend to do the job in two years, make yourself into fighting devils now, not later. . . . You are going to get killing mad eventually, why not now while you have time to learn thoroughly the art of killing. Soldiers learn quickly and well in battle—no doubt about that—but the method is costly to both you and the Nation.[4]

McNair's objective was to motivate his troops to expect the worst and minimize it by rigorous training while they still had the opportunity. His speech shocked some Americans, and Calhoun only quotes a single paragraph from it, but it deserves to be read in its entirety as a model of empirical analysis, transparency, candor, reason, and moving oratory.

McNair was also "joint" for his time period. He battled branch parochialism in his attempts to provide effective, combined arms support for frontline troops. Contrary to many accounts and assumptions, he was not partial to his branch, which was artillery. As General Paul F. Gorman remarks in a study of Army training, McNair wanted highly realistic training and impartial training assessments, stating, "The truth is sought, regardless of whether it is pleasant or unpleasant, or whether it supports or condemns our present organization and tactics."[5] Among the interesting anecdotes Calhoun relates in this regard is McNair's clashes with Billy Mitchell and Hap Arnold as a result of his leading a joint analytic effort to determine the most effective mix of forces for defending Hawaii. Both men were branch "partisans" who were guilty of intentional misrepresentations, according to Calhoun. In contrast, McNair took a combined arms approach to warfighting. Calhoun effectively makes the case that throughout McNair's career his objective, rigorous analysis of military force development and training issues explains why his superior officers kept rewarding him with advancement.

Calhoun's book is excellent but not without some imperfections. To paraphrase another reviewer in another context, it is so good we cannot help wishing it were better. As others have noted, it would benefit from more data and charts to help illustrate comparative funding levels between and within the Services, the extent to which Army logistics were insufferably strained, and the differences between types of divisions and their equipment. Calhoun's explanation of Army organizational politics also leaves something to be desired. Often when he asserts McNair did not have the authority to resolve an issue, it is hard to understand why, and the reader suspects Calhoun may be giving McNair the benefit of the doubt too often. Many sources believe McNair could have done better if he had experimented with more and better integrated combined arms elements, but Calhoun typically attributes such shortcomings to inadequate resources and authority, often but not always making a compelling case.

Calhoun does agree, however, that McNair was loath to take bureaucratic politics seriously, unlike his protagonists in Army Service Forces and Army Air Forces, something he attributes to McNair's personality and respect for the chain of command. For example, McNair's Army Ground Forces controlled tank training but not tank production, unlike the Army Air Forces, which managed to gain direct control over aircraft procurement. Rather than fight these sorts of bureaucratic battles, McNair seemed to believe integrating the efforts of functional commands of equal rank was the job of the next higher echelon in the chain of command (that is, General Marshall).

Also, while Calhoun is well-acquainted with most sources, as another reviewer notes, he could have used other Army officer remembrances of McNair (including his subordinates) more extensively to better explain his behaviors and bureaucratic challenges.[6] For example, he missed Major J.E. Raymond's insightful description of the informal atmosphere in McNair's headquarters and of McNair's indefatigable and parsimonious approach to his work as documented in Phyllis J. McClellan's *Silent Sentinel on the Potomac, Fort McNair, 1791–1991.* He also missed a superb treatment of McNair's development of doctrine and training in General Paul F. Gorman's *The Secret of Future Victories.*[7]

Calhoun's account of how General McNair's career ended is poignant. He notes that McNair seemed downcast—despondent over the War Department's bureaucracy, the consistent short-changing of ground forces, and even pessimistic about the problems confronting the Army and its conduct of the war. As the Army had to cover increasing combat losses, it began to eat into the training base and disrupt unit integrity, forcing McNair to issue triage guidance for training priorities, safeguarding individual and small-unit training at the expense of larger-unit maneuvers.[8] It must have been excruciating for McNair, who had done so much with so little, to have to increasingly push Soldiers forward to battle in patchwork divisions not properly prepared for the test of battle.

Ironically, McNair suffered the quick fate he feared for the many green troops he prepared for war. He was assigned

After arriving in Washington, General and Mrs. McNair were taken to their Army War College quarters (NDU Special Collections)

command of field forces in Europe, where he was soon killed on the frontlines. As Calhoun relates, close observation was a hallmark of McNair's approach to problem-solving over the years. He pioneered observed-fires for artillery, made a habit of observing training up close, and had previously been wounded in North Africa while observing fighting too closely. Told his presence boosted troop morale, he returned to the frontlines a second day in a row. He was killed by bombs inaccurately dropped by the Army Air Forces' B-24 long-range strategic bombers, which were pressed into service for close air support. Thus, the man whose career is now dismissed as uninteresting because so much of it was spent in staff assignments became the only American lieutenant general ever killed in combat. A few weeks later his son and only child was killed in the Pacific by a Japanese sniper, leaving Mrs. McNair totally bereft.

In his speech lauding the American Army, Churchill stated the unparalleled organizational proficiency of the Army in World War II came from a small, professional corps of Army leaders who "frugally, modestly, industriously, faithfully" pursued "professional studies and duties" for a long period of time without public appreciation. It was, Churchill stated, "a gift made by the Officer Corps of the United States to their nation in time of trouble," one that he hoped would not be forgotten. Calhoun's book depicts the extent to which the gift has been forgotten, particularly the sacrifices made by McNair, the unsung architect of the U.S. Army. Fortunately, Calhoun's book also admirably provides a compelling correction to this egregious oversight.

The import of Calhoun's biography goes well beyond the contribution it makes to World War II historiography and the ongoing debate over U.S. Army performance during that period. His impressive recounting of McNair's career is a reminder that effective leadership—particularly in the military—can best be measured by organizational performance and that superior performance requires education, experimentation, and rigorous training. The branch (and Service) parochialism McNair labored to overcome in favor of better combined arms performance, and the careful attention he paid to force design, doctrine, and training, are still important issues for the Army and Pentagon more broadly.

As another reviewer wryly muses, McNair's experience makes us wonder, "Does the Army achieve synergy among the staff, U.S. Army Training and Doctrine Command, and U.S. Army Forces Command, or do unnecessary friction, redundancy, and bureaucratic infighting remain?"[9] Indeed, given the prejudice against staff assignments that Calhoun's colleagues assume to be the norm today, we have to ask whether military leaders really appreciate the critical importance of contributions from officers with McNair-like credentials. Put differently, would serving as "the brains of the Army" (or the joint force) any longer be a sure-fire path to promotion, or even considered a compliment?

In any case, for this reviewer, who works at General McNair's namesake installation, Fort Lesley J. McNair, Calhoun's book is a must-read. It also is a moving reminder that we must come to work every day intent on trying to contribute to military performance with the same spirit of objectivity and determination that exemplified General McNair's long, distinguished, and selfless career. JFQ

Notes

[1] Winston Churchill, "Address to American and British Service Members, The Pentagon, Washington, DC, March 9, 1946," in *The Sinews of Peace: Post-War Speeches* (Boston: Houghton Mifflin, Co., 1949).

[2] Mark T. Calhoun, *General Lesley J. McNair: Unsung Architect of the U.S. Army* (Lawrence: University Press of Kansas, 2015), 201. See Jim Lacey, *Keep from All Thoughtful Men: How U.S. Economists Won World War II* (Annapolis, MD: Naval Institute Press, 2011).

[3] Paul F. Gorman, *The Secret of Future Victories* (Alexandria, VA: Institute for Defense Analyses, February 1992), II-1–II-57.

[4] The speech can be read in its entirety at <www.ibiblio.org/pha/policy/1942/1942-11-11d.html>.

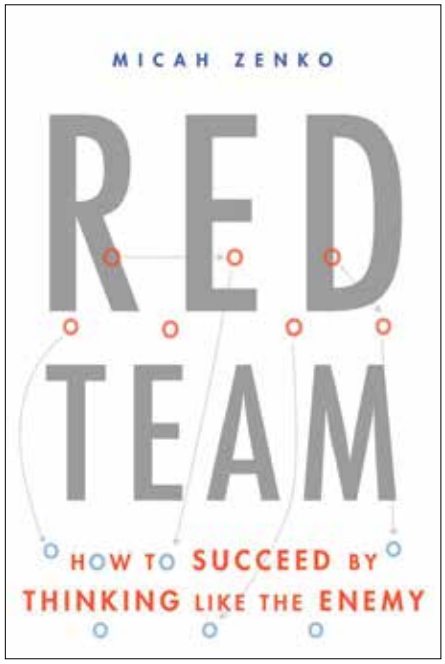
[5] Ibid., II-14.

[6] This point is made by T.J. Johnson, book review, *Cavalry and Armor Journal*, April–June 2016, 48.

[7] Phyllis J. McClellan, *Silent Sentinel on the Potomac, Fort McNair, 1791–1991* (Bowie, MD: Heritage Books, 1993), 154.

[8] Gorman, II-38–39.

[9] Gregory Fontenot, "Efficiency Guru McNair Managed Army Growth," *Army*, March 2016, 69.



Red Team: How to Succeed by Thinking Like the Enemy
By Micah Zenko
Basic Books, 2015
338 pp. $16.00
ISBN: 978-0465048946

Reviewed by Matthew Cancian

Cyber warfare, asymmetric threats, emerging challenges to conventional hegemony—a myriad of threats face American policymakers in the 21st century. In *Red Team: How to Succeed by Thinking Like the Enemy*, Micah Zenko, a senior fellow at the Council on Foreign Relations, proposes "red-teaming" as an effective antidote to the cognitive biases that plague decisionmakers in any organization. Overall, Zenko does an excellent job portraying the value of having a cell of critical, outside-the-box thinkers to challenge orthodoxy in variegated contexts, and specifically recommends how to design red-team engagements to overcome the organizational inertia and blind spots that they are meant to combat. The book is a worthy read for national security analysts of every stripe who are working to keep America safe in the face of the complexities of the 21st century.

First, however, there is a small problem of definitions. Zenko uses the term *red-teaming* to mean a "structured process that seeks to better understand the interests, intentions, and capabilities of an institution—or a potential competitor—through simulations, vulnerability probes, and alternative analysis." This is slightly different from the most common definition, which defines red-teaming as a subset of alternative analysis that aims to view "a problem from an adversary or competitor's perspective." People with a military background remember friendly forces being depicted in blue and the enemy in red; hence, "turning the map around" and thinking like the enemy denote "red-teaming." It is not a point against Zenko, but readers need to keep in mind that he uses the term in a more expansive way than normal.

Zenko catalogues the use of red-teaming in a variety of security contexts, ranging from the Central Intelligence Agency's analysis of Syria's Al-Kibar nuclear research site to physical penetration tests of government buildings. The research is exhaustive, based on over 200 interviews with government officials, business leaders, and maverick thinkers. The diversity of red teams and the analyses of their successes and failures are enough to make this book a valuable addition to any policymaker's reading list.

The exact reasons why red-teaming through a special cell of maverick thinkers is needed, however, are not explicated as much as one might wish. Why can an entire organization not be made up of critical thinkers? Recent editions of military journals are replete with calls for "agile," "adaptive," "critical," or "strategic" thinkers (or all four at the same time, as then–Chairman of the Joint Chiefs of Staff General Martin Dempsey called for in 2013). Zenko effectively argues that it is impossible for any large organization to be staffed entirely by mavericks; the "existing guidance, practices, and culture of an institution are essential to its functioning effectively." Otherwise, the institution would have to constantly reinvent every process. I agree with Zenko on this point, but by not devoting enough space to the necessity of alternative analysis, he opens himself to critics who favor fostering a broad culture of critical thinking (or whatever the term du jour is) over red-team cells.

Zenko extracts general principles that make for successful red teams. First, "The Boss Must Buy In." Red teams do no good if they are used as cover for a decision that has already been made, or if the red team is forced on decisionmakers who have no intention of listening to the given recommendations. Second, red teams should be "Outside and Objective, While Inside and Aware," which means that the team is not poisoned by group think, but is sensitive to organizational concerns in how it presents its analysis. This ties in to the third principle: that red-teamers should be "Fearless Skeptics with Finesse."

"Have a Big Bag of Tricks," the fourth principle, might seem to be most relevant to the cyber security realm, where red-teamers might be imagined to be computer geniuses who need state-of-the-art hacks in order to defeat computer systems. In fact, Zenko emphasizes that the best red-teamers in cyber security go through great pains to use only simple techniques that could realistically be employed by an adversary. This could be applied in other contexts more relevant to defense; it was, after all, the simple techniques of communicating by runner and suicide boats that defeated the "Blue Team" in the infamous Millennium Challenge 2002 experiment that Zenko uses as one of his teaching points.

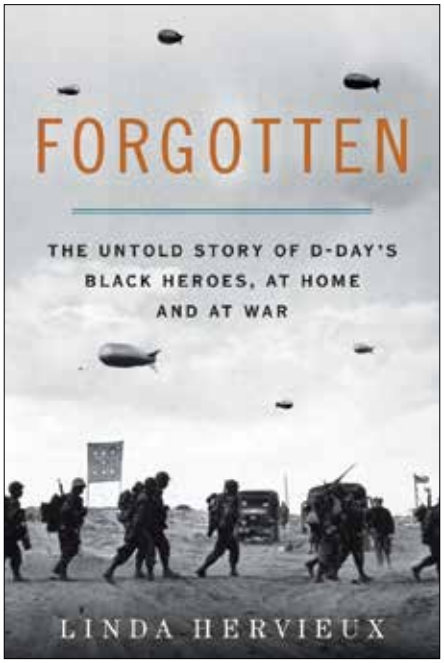
In another principle, Zenko counsels that organizational leaders should "Be Willing to Hear Bad News and Act on It," which was unfortunately not the case when the Federal Aviation Administration red team warned of critical security shortcomings before 9/11. Finally, Zenko argues that one should "Red Team Just Enough, But No More." Red-teaming is not an end unto itself; it should serve to enhance decisions.

By showing the effectiveness of alternative analysis cells in diverse contexts, Zenko succeeds in convincing readers of the need for red-teaming in a variety of contexts. One unresolved tension throughout the book, however,

is whether the ability to red-team effectively is an innate quality or whether it is something that can be taught to anyone. Zenko alternatively lauds the University of Foreign Military and Cultural Studies at Fort Leavenworth for teaching critical thinking, then describes the red-teamers he meets as born mavericks or quotes them stating that their brand of outside-the-box thinking is innate. By the end of the book, readers might still remain puzzled by this ambiguity.

Overall, Zenko has assembled a remarkable host of evidence and makes a strong case for the utility of alternative analysis cells, or red teams, in a variety of national security contexts. Readers of this journal would do well to read his book and think about how the techniques that Zenko details would benefit their organization. **JFQ**

Captain Matthew Cancian, USMC (Ret.), served from 2009–2013. He is currently a Ph.D. candidate in Political Science at the Massachusetts Institute of Technology.



Forgotten: The Untold Story of D-Day's Black Heroes, at Home and at War

By Linda Hervieux
Harper, 2015
353 pp. $27.99
ISBN: 978-0062313799

Reviewed by Bryon Greenwald

Linda Hervieux's well-written and thoroughly researched book, *Forgotten: The Untold Story of D-Day's Black Heroes, at Home and at War*, is a micro history that makes three macro contributions to American military history. At its core, *Forgotten* is the story of the 320th Anti-Aircraft Barrage Balloon Battalion, VLA (Very Low Altitude), the only African-American combat unit to land in France on D-Day, June 6, 1944. As such, it pulls double duty by highlighting the untold story of this innovative method of protecting Allied ships and troops from air attack as well as by emphasizing the role of African-Americans in Operation *Overlord*.

Forgotten is also a poignant reminder that the men of the 320th Battalion were part of a force of one million African-American men and women who fought for freedom and democracy abroad while being denied the same rights at home. Finally, Hervieux uncovers the forgotten story of Waverly Woodson, Jr., a balloon battalion medic from Philadelphia, whose heroic care for mostly white Soldiers on D-Day should have earned him the Medal of Honor, except that in Jim Crow America, blacks were essentially ineligible for such distinctions regardless of their actions. Fortunately, thanks to Hervieux's history, Congress and the U.S. Army are reexamining Woodson's actions, albeit over 72 years after the event and 11 years after his death in 2005.

Of the over 30 balloon battalions fielded by the Army, African-Americans manned just 4. As Hervieux highlights, these units—the 318th, 319th, 320th, and 321st—were a "source of tremendous pride for black America" and received frequent coverage in the African-American and white press. But of all of these units, only one—the 320th—landed in Normandy on D-Day. Before it redeployed to England 140 days later, the 320th destroyed at least one JU-88 and possibly other German aircraft, particularly in the early days of the invasion, and received a commendation from General Dwight D. Eisenhower for its service at Omaha Beach. Moreover, the 320th captured the attention of servicemembers across Europe and changed some, if not all, minds about the ability of African-American Soldiers. As Bill Richardson, a military correspondent, noted to Eisenhower's staff, "It seems the whole front knows the story of the Negro barrage balloon battalion outfit which was one of the first ashore on D-Day. [They] have gotten the reputation of hard workers and good soldiers. Their simple earnestness and pride . . . is obvious to some of the most Jim-Crow–conscious southerners" (p. 238).

The Army created barrage balloon battalions to deploy aerial obstacles to deter enemy aircraft from strafing and dive-bombing ships and friendly locations. A battalion consisted of four batteries, each able to fly several "silver sausages" simultaneously to an altitude of 2,000 feet. Three- or four-man crews tethered each 35-foot-long balloon to the ground with a long cable that held a

small explosive at each end. If not fouled outright by running into the cable, an attacking aircraft activated two quick releases that freed the cable from both the balloon and the ground. As the cable separated, it deployed two small but different-sized drag chutes that pulled one of the explosive charges toward the plane, detonating on contact. Ideally, Army antiaircraft artillery machine guns, 40-millimeter (mm) Bofors, or 90-mm guns engaged any enemy aircraft flying above or around these aerial obstacles or drove them even higher, where they fell prey to Allied defensive fighters prowling the skies—a truly joint effort.

Forgotten makes its second important contribution with Hervieux's recounting of segregation in America in the 1930s and 1940s. It is the quality of the unit's service when compared to the inequality of its servitude to a disapproving and discriminatory nation that makes the history of the 320th Anti-Aircraft Barrage Balloon Battalion compelling for the reader. Hervieux vividly recounts the fear black Northern Servicemembers had when traveling in curtained railcars to training bases in Tennessee or Georgia and the treatment they received in some quarters from white officers and others in authority, particularly military and civilian police. This behavior stood in stark contrast to how the British and French welcomed them as equals. As damning as their treatment before the war, it was America's failure to recognize their wartime service with a measure of equality that spurred many African-American Soldiers to join the growing civil rights movement. As such, *Forgotten* serves as a window into America's past and places contemporary racial issues into important historical perspective.

As a final contribution to American military history, Hervieux's work corrects past oversights and shortcomings. For *Forgotten* is built around the individual histories of several members of the 320th Battalion—Wilson Monk, Henry Parham, George Davison, and William Dabney, to name a few. None is more famous, but still forgotten to history, than Waverly Woodson, Jr., whose skill as a medic found him assigned to an early arriving landing craft, tank (LCT) with the 29th Infantry Division. As Woodson's LCT arrived at Omaha Beach around 9:00 a.m., it struck a mine that disabled the motor and hit another mine that tore into the hull. Then an artillery round landed in the jeep on deck, killing several men. Woodson suffered shrapnel wounds to the leg, the first of two wounds, and soon found himself struggling to get ashore, out of the frigid water. Once on the fire-swept beach, he quickly set up an aid station and treated 200 wounded and dying Soldiers until he collapsed 30 hours later from his wounds and sheer exhaustion. As he would tell the story years later, when men needed aid, "They didn't care what color my skin was." As the black press recounted, his actions merited the Medal of Honor.

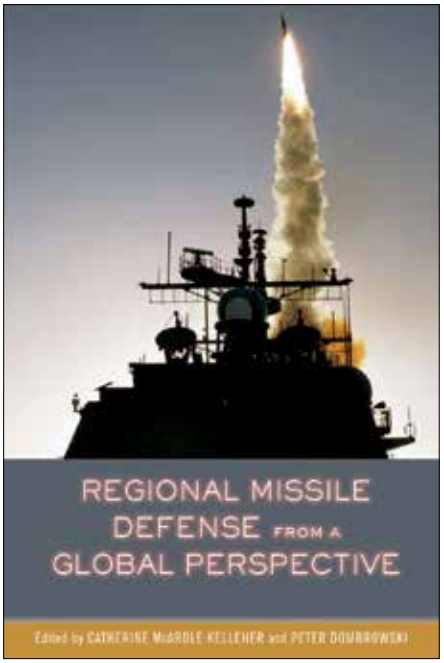
But back then, black men did not receive the Medal of Honor. Of the 433 Medals of Honor awarded for actions during the war, none went to African-American Soldiers. Woodson's commander, a white officer, recommended him for the Distinguished Service Cross, the Nation's second highest award. As Hervieux records, Lieutenant General John C.H. Lee, the Deputy Commander of U.S. Forces in Europe, believed Woodson deserved the Medal of Honor and ordered the recommendation changed. Hervieux notes that mention of the award even reached the White House, but whether the recommendation reached President Franklin D. Roosevelt, who was not as farsighted regarding race relations as his wife Eleanor, was lost to history. In the end, Woodson received the Bronze Star, the Nation's fourth-highest award for valor.

Why Woodson did not receive the Distinguished Service Cross, one can only guess. Perhaps in upgrading the award recommendation, Lieutenant General Lee actually did Woodson an unintended disservice. Although a strict disciplinarian, Lee was ahead of his time regarding race relations and equality. When a shortage of infantrymen threatened to slow American combat operations in Europe, Lee offered black men, serving as laborers in the U.S. Army Services of Supply, the chance to become infantry replacements. Major General Walter Bedell Smith, Eisenhower's Allied chief of staff, initially resisted the move, fearing it broke the Army's policy on the segregation of units—a silly rule that ignored the reality of infantry combat. Many of his contemporaries considered Lee arrogant and self-aggrandizing; some even referred to him as "Jesus Christ Himself" after his initials J.C.H. It is conceivable that Lee's reputation within the European theater of operations (ETO) for racial tolerance combined with his personal demeanor to have a chilling effect on Woodson's award recommendation. Unfortunately, the ETO awards board recommendations are also lost to history.

In 1992, the Army ordered an independent inquiry to determine why no World War II African-American Soldiers received the Medal of Honor. The panel concluded that the racial climate and practice within the World War II Army contributed to the failure of African-American Soldiers to be awarded the medal. The panel also found that it could not determine if Woodson deserved the Medal of Honor because it lacked his Army file, which had been destroyed in a 1973 fire at the National Personnel Records Center in St. Louis. Fortunately, due to Hervieux's research, Congressman Chris Van Hollen (D-MD) asked the Army to review Woodson's actions and recommended he receive the Medal of Honor. While Woodson may get his due eventually, posthumously awarding him the Medal of Honor will not repair the damage done at the individual and collective level to the fabric of American society by what Ta-Nehisi Coates describes in his award-winning memoir, *Between the World and Me*, as essentially decades of overt and covert, conscious and unconscious racism and discriminatory treatment.

Forgotten is an excellent book. Linda Hervieux deserves great credit for uncovering this long-forgotten and unique history. Her book not only preserves the past, but also brings to light legacies that are otherwise grievously *forgotten*. **JFQ**

Dr. Bryon Greenwald is a retired U.S. Army officer currently serving as a Professor in the Joint Advanced Warfighting School in Norfolk, Virginia.



Regional Missile Defense from a Global Perspective

Edited by Catherine McArdle Kelleher and Peter Dombrowski
Stanford University Press, 2015
328 pp. $29.95
ISBN: 978-0804796354

Reviewed by William A. Taylor

In *Regional Missile Defense from a Global Perspective*, Catherine M. Kelleher and Peter Dombrowski analyze the history of missile defense, U.S. policy debates, the resulting acquisition programs, and challenges and opportunities of the past, present, and future. The genesis of the volume was two workshops on the topic held at the Naval War College during 2011 and 2012. While seemingly dated, the work remains timely given the elevation of regional missile defense in the U.S. National Security Strategy and Russia's provocations in the Baltics and Ukraine. The anthology should prove useful to policymakers, scholars, and students interested in the complexities of missile defense around the globe.

The editors' objective is simple: "to explain the origins, the evolution, and the implications of the regional approach to missile defense that has emerged since the presidency of George H.W. Bush." Kelleher and Dombrowski assemble an impressive array of international subject matter experts to contribute to the volume, organizing their resulting work into 14 chapters. To structure these, they divide the volume into three parts, in turn examining U.S. policies and programs, regional dynamics, and critical global analyses. The various contributors employ an extensive array of sources: government documents, scientific reports, policy papers, and intelligence estimates, as well as relevant interviews, speeches, addresses, and statements by key policymakers.

The first five chapters examine missile threats to the United States, the dichotomy between national and theater missile defense, technology, and the role of Congress. But the bulk of the work resides in the second part, which gives extensive coverage to the questions, prospects, and consequences of missile defense in such specific regions and countries as Europe, Russia, Israel, the Arabian Gulf nations, South Asia, China, and Japan. The last two chapters consider the positives and negatives of missile defense in terms of grand strategy and costs. Throughout the work, the contributors pay particular attention to President Barack Obama's European Phased Adaptive Approach.

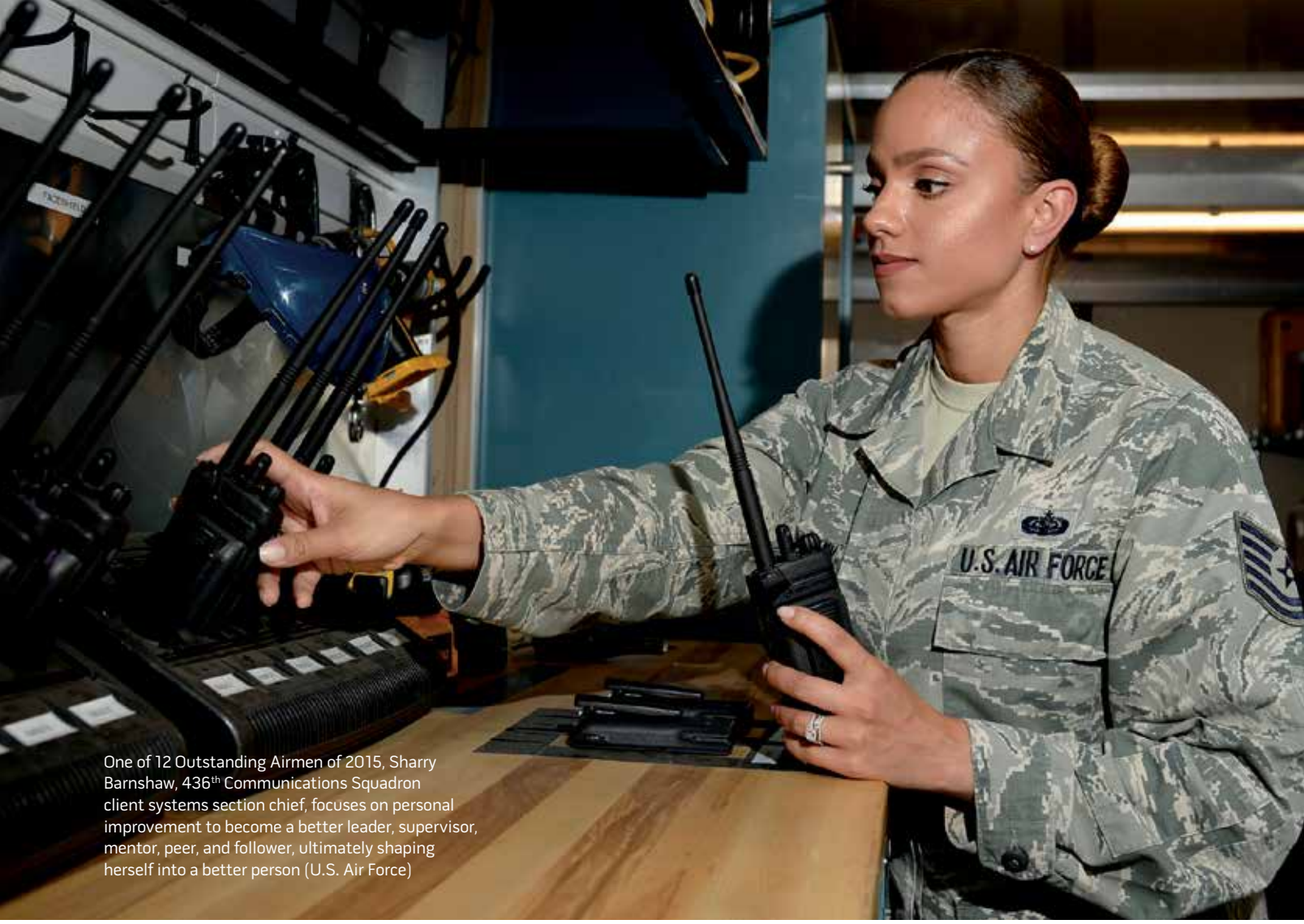
While focused on missile defense, the book also offers cogent considerations of far-reaching concepts, including an evenhanded evaluation of the trials and benefits of collective defense and the role of technology as an enabler and limiter of grand strategy. The work also demonstrates the importance of resources to national and international security, both in real terms and as a result of tradeoffs and opportunity costs. Finally, the volume explores the political and symbolic nature of missile defense and offers valuable reflections on the essence of the security dilemma. Of particular relevance in this regard is the appropriate balance between offensive and defensive capabilities, both in one's own arsenal and in the perceptions of allies and adversaries.

One of the particular strengths of this anthology is its regional approach, revealing how international security issues such as missile defense reside within a specific context in any given country or region. In this regard, the treatment of Israel's Iron Dome antirocket system is excellent. Ariel Levite and Shlomo Brom's chapter, "From Dream to Reality: Israel and Missile Defense," stands out as the best among many excellent chapters for its detailed analysis of the potential benefits of missile defense.

The book also explores significant joint issues such as the proper roles and missions of the various U.S. military Services, including the Navy's ballistic missile defense–capable Aegis ships armed with SM-2 and SM-3 interceptors, and the Army's Patriot PAC-2 and PAC-3 batteries and Terminal High-Altitude Area Defense system.

Overall, *Regional Missile Defense* is a valuable contribution to understanding the vital and sometimes contentious debates on this mission area, which will grow in importance in the future. The book is the first volume in some time to analyze missile defense in a serious and comprehensive way and is a welcome addition to the existing literature, much of it overly broad. In their conclusion, Kelleher and Dombrowski point out that "officials and elites are again struggling over topics such as offense-defense tradeoffs, the adequacy of missile defense technology advances, projected deployment schedules, funding priorities, and the new participation of allies and friends in key burden sharing." Such a situation magnifies the importance of informed debate on these critical issues. In the end, *Regional Missile Defense* presents a balanced assessment that is likely to become the standard work on the topic for quite some time. **JFQ**

Dr. William A. Taylor is an Assistant Professor of Security Studies at Angelo State University and author of *Military Service and American Democracy* (University Press of Kansas, 2016).



One of 12 Outstanding Airmen of 2015, Sharry Barnshaw, 436th Communications Squadron client systems section chief, focuses on personal improvement to become a better leader, supervisor, mentor, peer, and follower, ultimately shaping herself into a better person (U.S. Air Force)

Mentoring
Civilian Contributions to the Joint Force

By Kevin D. Scott

The future operating environment will place new demands on leaders at all levels. To best prepare our future leaders for success we must continuously assess and refine our leader development.

—General Joseph F. Dunford, Jr.

This year, in support of the Secretary of Defense's priority to "build a department and joint force of the future by embracing change," General Dunford laid out his approach for the future joint force. His three key joint force focus areas include the requirement to develop leaders for Joint Forces Next.

To achieve the Chairman's goals, the Joint Staff developed three core functions to focus staff efforts on the unique capabilities they bring to support the Chairman, Secretary of Defense, and President of the United States. Committed leadership is the driving force behind all current and future efforts.

Vice Admiral Kevin D. Scott, USN, is the Director for Joint Force Development (J7).

J7 Role in Integrating Tomorrow's Joint Force

As director for Joint Force Development and the Chairman's lead for the third core function, "Integrating Tomorrow's Joint Force," I am committed to the Chairman's vision of "a joint force composed of agile and adaptive leaders and organizations who can critically think and innovate through dynamic problems in an increasingly transregional, multidomain, multifunctional threat environment." Success requires that we pay attention to current and future joint leaders—military, officer and enlisted, as well as civilian. Civilian professional development and growth need a deliberate approach. Our ability to meet future challenges will depend in large part on the quality and effectiveness of our own civilian leaders.

Today, our civilians lead organizations at every echelon. They drive doctrinal and functional changes and work side by side with senior leaders, deployed military units, and all levels of staff. They understand the operational picture as well as the risks, constraints, intentions, and political nuances of the current operating environment. Our civilians provide critical continuity, expertise, and stability. A deliberate approach to grow and retain quality civilian leadership is a critical component of joint force development.

Creating a mentorship program is one of the primary ways we can develop and retain our civilian leaders. The Joint Staff J7 established a formal Joint Force Development Civilian Mentorship Program in 2014. The deliberate integration of a mentorship component within our leader development program provides the Joint Staff with an even more capable and competent cadre of civilian leaders with in-depth joint force development expertise.

Mentoring, unlike training, is intended not only to impart skills, but also to encourage a change in individuals' perspectives on their organization, their goals, and their own personal development. Our leaders need to understand how their particular work or skill set contributes to the organization's overall mission in support of the warfighter. Civilian leaders need to understand the importance of work/life balance as an essential skill for success. We must continually review our professional goals as we expand our experience and education. A mentoring program is grounded in quality mentors. Mentors listen to their mentees' ambitions and concerns and share their own professional experiences. Mentors build the confidence of their mentees, so they can further enhance the knowledge and skills needed to succeed in positions of increased responsibility.

While developing the Joint Force Development Civilian Mentorship Program, our research team identified several themes from successful Federal and formal and informal corporate mentorship programs. In line with those successful themes, the J7 team outlined the following program objectives:

- Commitment: requires and ensures a pledge from mentors, mentees, and the directorate's senior leaders and personnel supervisors.
- Effective pairing: matches mentors and mentees based on specific criteria so that the individuals will have different, but complementary, characteristics.
- Diversity: avoids pairing mentees with mentors from the same division or branch.
- Partnership: creates a superior-subordinate relationship between the mentor and mentee, which is why the word *mentee* is used and *protégé* is not.
- Honesty: makes clear that while the mentoring process helps the mentee to gain new skills, there are no promises associated with the program.

How the Program Works

First and foremost, this program is voluntary for both mentors and mentees. Supervisors can recommend someone for the program, but that individual must agree to participate. Once mentors and mentees are identified, they conduct initial in-person "meet and greets." Mentees submit their mentor preferences after they have assessed several potential candidates.

The next step is for both mentor and mentee candidates to complete a personality profile tool for helping predict how people will relate to one another. The profile tool evaluates compatibility rather than skills or knowledge. After reviewing the profile results and mentees' preferences, the program coordinator (a senior civilian collateral duty) matches mentors with mentees. This matching is critical; the mentee needs a mentor who is a teacher, sponsor, counselor, and advocate. We then conduct a formal meeting, presenting each mentor with his/her new mentee, after which the paired mentor/mentee meet to complete a mentoring agreement. This agreement defines how and when they meet with each other as well as relationship expectations. Within the first month, the team develops a formal mentoring action plan that identifies the mentee's goals and what is required or recommended to reach those goals.

Formal mentorship and monthly group training sessions occur throughout the year. Mentors and mentees attend presentations that provide an expanded view of Joint Force Development missions as well as Joint Staff, combatant command, Service, and Department of Defense–wide systems and processes. Mentees are exposed to senior leaders who help them understand the "big picture" and improve their confidence and situational awareness. The most important part of the relationship is the mentor's ability to listen rather than dictate, encourage rather than discourage, and provide guidance so the mentee can make informed decisions. After the year is over, we hold a formal closing ceremony. Mentees receive a certificate of completion, and all participants receive a Joint Staff Mentorship Program lapel pin. But that is not where the program ends. Many of the mentors/mentees that were paired still meet today.

Benefits

Results from a J7 survey completed by mentors and mentees who have participated over the past 2 years identified

multiple benefits from establishing and executing a mentorship program.

Benefits to Mentees

- Organizational understanding: Mentees have the ability to exhibit a better understanding of roles and responsibilities throughout the organizations, their contributions to missions, and how all roles fit together to support the warfighter.
- Career orientation: They look at their careers as a long-term opportunity rather than a short-term job.
- Focus: They have a clearer vision of their own personal goals and how to achieve them, including various on-the-job experiences or formal degree programs.
- Professional networking: They are more exposed to others from different organizations in a team-like environment, as well as helping to develop and expand their network of people.

Benefits to Mentors

- Giving back to the organization: Some people seek a career in public service to do just that—serve. One reason so many veterans and military retirees go on to become civilian government workers is to continue serving. Mentoring provides a meaningful opportunity to do so.
- Improved listening skills: Unlike a supervisor, coach, or trainer, the mentor's primary tool is to listen—*truly* listen—to what the mentee is communicating. What mentees are not saying is as important as what they actually verbalize. This enhanced listening capability is applicable to everyday use at work, at home, or in the community.
- Personal satisfaction: Mentors enjoy the pleasure of helping a colleague to grow professionally and gain the organizational equivalent of "street smarts." Mentors take pride in knowing that their efforts have made their organization just a little better.

Benefits to the Department of Defense

- Improved unity of effort: Mentees gain broader knowledge and understanding of the mission and vision of their organization, as well as the Chairman and Secretary of Defense. They become personally invested in organizational success.
- Greater productivity: Productivity improves as a result of an enhanced skill set and a better understanding of the organization's goals.
- Orderly transition: Joint Forces Next is the most important beneficiary of the mentoring program. Today's mentees will become tomorrow's government civilian leaders.

The current and projected security environment our nation faces is characterized by complexity, uncertainty, and rapid change—far faster than we have ever known. We face strategic challenges and crises simultaneously and across the full spectrum of our current capabilities. Technology gives adversaries low-cost capabilities that can offset some of our most expensive acquisition programs. Adding to this dilemma are significantly diminishing manpower and funding levels. The burden of success is now placed squarely on our most valuable resource, *people*, and with the challenges we face, *people* are the true game changers. Therefore, it is essential that we commit to providing pathways for professional and personal growth to meet current and future demands.

Creating tomorrow's joint force leaders requires the creative selection, development, and management of our talent. The primary task for developing a well-balanced and integrated future joint force is to develop military and civilian leaders who can think critically, solve problems, and collaborate. To ensure success we must infuse both military and civilian leaders at all echelons in the joint force with adaptive behavior, creativity, innovation, and critical thinking skills. When successful, we will have attained the vision laid out by the Chairman to develop leaders for Joint Forces Next.

Mentoring is one of the primary means by which we can develop and retain our future civilian leaders. Mentoring promotes the ability of every member of the Joint Staff to contribute meaningfully to Joint Forces Next. I see this as a powerful tool to improve the entire Defense Department civilian workforce—personally, professionally, and organizationally. This codified initiative, along with other civilian professional development programs, will further support the quest to achieve a Total Joint Force that will face any transregional, multidomain, multifunctional challenge in the future. **JFQ**

Should you have any questions about this program, please contact Ms. Stephanie Roper-Burton of the J7 Military Secretariat, manager of the Joint Force Development Mentorship Program, or Ms. Beth Lape, program director of the Joint Force Development Professional Certification Program.

Soldiers conduct static line airdrop during Joint Operational Access Exercise 13-02, at Sicily drop zone, Fort Bragg, North Carolina, to train with paratroopers from U.S. Army's 82nd Airborne Division on projecting combat power in denied environments (DOD/Jason Robertson)

Joint Concept for Access and Maneuver in the Global Commons

A New Joint Operational Concept

By Michael E. Hutchens, William D. Dries, Jason C. Perdew, Vincent D. Bryant, and Kerry E. Moores

Captain Michael E. Hutchens, USN, Office of the Chief of Naval Operations Staff, N503 Concepts and Implementation, is the Joint Concept for Access and Maneuver in the Global Commons Office Lead. Colonel William D. Dries, USAFR, is Associate Division Chief, Concepts Division, Deputy Chief of Staff, Strategic Plans and Requirements, Headquarters Department of the Air Force. Lieutenant Colonel Jason C. Perdew, USMC, is a Joint Concepts Analyst for the Marine Corps Warfighting Laboratory/Futures Directorate. Colonel Vincent D. Bryant, USAR, is a Senior Analyst for Army Space Strategy and Policy, Headquarters Department of the Army G3/5/7. Colonel Kerry E. Moores, USA, is Branch Chief for Future Joint Force Development and Concept Implementation, Joint Staff J7.

In two separate keynote addresses at the annual conventions of the professional associations of the Army and Air Force, General Joseph Dunford, Jr., described how he and the other Service chiefs went through a "process of discovery" to develop the new National Military Strategy.[1] He further explained

that part of that process included their collective thinking on our national centers of gravity.

In particular, General Dunford conveyed that at the operational level, it is our ability to globally project power that is a key military center of gravity. On that point, he went on to state, "In my judgment, [potential competitors'] operational patterns, their capability development, and their behavior are designed to undermine the United States, our ability to project power, and the credibility of our alliances." He continued, "We've also seen them modernizing their existing systems and also some capabilities that are particularly concerning to the United States . . . their long-range conventional strike, modernized nuclear capabilities, and their focus on developing a wide range of robust cyber, space, electronic warfare, and undersea capabilities."

For a nation that should think and act globally, the United States must be capable and ready to address emerging challenges in a way that has been an advantage for American and allied forces for decades: the ability to project military force into an operational area with sufficient freedom of action to accomplish a designated mission.

Signed and Approved

On October 19, 2016, Vice Chairman of the Joint Chiefs of Staff General Paul Selva, USAF, signed the Joint Concept for Access and Maneuver in the Global Commons (JAM-GC), officially signaling its approval as a joint operational concept to support the Capstone Concept for Joint Operations 2030. Most importantly, JAM-GC will inform joint force operations so that the United States can maintain access to and maneuver through the global commons, project power, and defeat an adversary attempting to deny freedom of action to U.S. and allied forces.

JAM-GC is the evolved replacement of its predecessor, the much-analyzed Air-Sea Battle concept, and continues the natural and deliberate evolution of core U.S. abilities to project power. The concept focuses on gaining and maintaining operational access to preserve freedom of action in the global commons in an era of increasingly sophisticated and rapidly proliferating military threats.[2] The concept's operational-level thought will also inform capability and force development activities to aid in the shaping of the joint force necessary to address those military threats.

The United States will continue to develop and enhance its regional and global power projection capabilities in order to provide a full range of options to succeed in defense of our global interests and those shared by our allies and partners. Actions taken in concert with the transition and application of this concept will inform and refine those capability development efforts.

Rise of Antiaccess/ Area-Denial Threats

The United States is a global power with global interests. This foundational principle continues to place demands on the military's ability to project and sustain power globally. Since the end of World War II, U.S. forces have generally enjoyed unrestricted and unchallenged access to the global commons, which in turn has facilitated the ability to project power. This unfettered access also contributed to a shift in priorities away from thinking, planning, and operations to ensure continued operational access. Additionally, the Nation's focus on two wars over the past two decades that required a different kind of warfighting and different capabilities and capacities than those required to counter a near-peer competitor further drew collective attention away from the issues of continued operational access.

Today, efforts by determined potential adversaries to obtain, field, and proliferate formidable advanced technologies and military capabilities to counter U.S. and allied power projection are undermining these traditional U.S. military advantages.[3] These capabilities not only include traditional weapons such as aircraft, submarines, mines, and missiles, but also encompass emerging capabilities in all domains, including space and cyberspace.[4] The range, lethality, and sophistication of these new capabilities constitute an unprecedented array of antiaccess/area-denial (A2/AD) capabilities that threaten the U.S. and allied model of power projection and maneuver. These challenges seem even more daunting given recent fiscal constraints that have significantly impacted both force structure and military readiness.

Unless countered, these challenges will reduce the credibility of U.S. security guarantees and the confidence of legitimate users that they will continue to enjoy unconstrained access to the global commons. These formidable capabilities can also cause U.S. and allied forces to operate with higher levels of risk and at greater distances from areas of interest.

Initial Response: Air-Sea Battle

Given these operational realities, the Department of Defense recognized the need to explore and develop ideas and capabilities to enhance U.S. power projection capabilities and strategies, as well as to ensure freedom of action. In July 2009, then–Secretary of Defense Robert Gates directed the Services to address this military problem set, and a new operational concept called Air-Sea Battle (ASB) was created.

A multi-Service office was established to not only write the new concept, but also construct, administer, and oversee viable transition and application actions throughout the military Services. ASB would be incorporated into more than two dozen wargames, experiments, studies, and exercises at the Service, combatant command, joint, and allied levels. ASB tenets were codified in three implementation plans that produced force-development recommendations across key warfare areas to be tested, proved, and finally adopted by the "fleets and forces." All these exploratory activities revealed important insights. Many of the findings from these activities validated ASB's original central idea of the need for a more fully networked and integrated cross-domain force.

Developing a Whole New Concept

In fall 2014, the Service chiefs met and agreed that ASB should be revised into

an authoritative joint concept in support of, and subordinate to, the Joint Operational Access Concept (JOAC). Their conclusion was that evolving ASB from its original multi-Service arrangement into a fully integrated joint concept, under oversight by the Joint Force Development Process, would be the logical continuation and progressive enhancement of these organized efforts to address the current and future contested environments.

With improved understanding of operational requirements to address A2/AD challenges in the global commons, the Services and Joint Staff achieved consensus and agreed on the name *Joint Concept for Access and Maneuver in the Global Commons.*

In early 2015, in response to the Service chiefs' decision, the Air-Sea Battle Office began work to evolve Air-Sea Battle into JAM-GC. To further underwrite the new initiative, the Director of the Joint Staff issued a memorandum in January 2015 officially directing the name change, and he placed concept development efforts under monitoring from the Joint Staff J7 Directorate for Joint Force Development.

Development and writing of the new concept was done under the auspices of the existing formal joint concept development process.[5] Adherence to this systematic process ensured JAM-GC received the necessary Joint Staff integration and oversight afforded other joint concepts.

Building on the ASB Foundation

Development of JAM-GC is about improving joint warfighting effectiveness in a contested environment while employing the valuable research and lessons learned from implementing the Air-Sea Battle concept. JAM-GC keeps and enhances ASB's proven best ideas, with its lessons identified and incorporated to result in a joint concept that is more applicable and adaptive to the quickly changing and increasingly difficult operational environment. It is now a joint concept built on the ASB "chassis." While JAM-GC now exists as a joint concept, responsibility for its maturation, transition, and application remains with the Services, yet with the enhanced clout of formal Joint Staff J7 oversight.

Based on several years of comprehensive wargaming and experimentation, JAM-GC refines and adjusts ASB's ideas, intending to address the contested environment at acceptable levels of risk. Whereas the ASB concept was designed to counter emerging A2/AD challenges and hinged on a "disrupt, destroy, defeat" approach to specific adversary A2/AD capabilities, JAM-GC is focused on defeating an adversary's plan and intent, rather than just concentrating on dismantling adversary A2/AD capabilities.

JAM-GC concentrates on the operational level of war. It is not itself a strategy; rather, it is an operational approach to enable strategy. Likewise, effective tactics are necessary, but JAM-GC is not meant to provide tactical solutions. Similarly, the concept does not advocate for specific emerging capabilities. If such capabilities develop and are fielded, they will make JAM-GC's approach more effective.

There is recognition of the importance of technology to overcome adversary capabilities as well as defend friendly vulnerabilities, but the concept also recognizes the limits of technology and the need to integrate low-tech options where and when appropriate for the joint force. Importantly, JAM-GC lays out an approach for operations in contested environments that does not rely on overcoming a potential adversary's A2/AD military capabilities, whereas ASB's approach focused on changing the environment by systematically defeating A2/AD, so the joint force could operate as it preferred. This subtle but important change represents an acknowledgment that A2/AD capabilities evolved more quickly than anticipated and could only be dismantled at high levels of risk.

JAM-GC is intended to aid commanders, planners, and capability developers to:

- employ existing joint force capabilities in innovative ways to ensure access and freedom of maneuver
- provide the necessary force development activities, particularly education and integrated training, needed to succeed in future contested environments
- recognize, understand, and advocate for new capabilities and approaches required to defeat evolving threats.

Addressing the possibility of having to confront a near-peer, modern competitor, JAM-GC posits operations against determined, capable, and elusive opponents who avoid U.S. strengths, emulate U.S. capabilities, attack vulnerabilities, and expand operations beyond physical battlegrounds.

The new name also reflects several important ideas for joint force success in contested environments. The most obvious change reflects that operating in the face of comprehensive A2/AD threats requires the integration of capabilities from all five warfighting domains (land, sea, air, space, and cyberspace), not just from the air and sea domains of its correspondingly titled predecessor.

The concept also includes the capabilities—and capacities—of allies and partners when and where appropriate, as access to the global commons is a collective interest of the international community. JAM-GC will continue to build on the U.S. commitment to our allies and partners around the world who are essential to successfully overcoming threats to access in the global commons. Improved interoperability with allies and partners is a fundamental tenet of the new concept.

Just as with the original Air-Sea Battle concept, JAM-GC is not predicated on any one potential adversary, theater of operations, or geopolitical scenario. Rather, the concept is driven by the global proliferation and increasing sophistication of A2/AD threat capabilities with global applicability. Its focus is on the challenge of contested access and maneuver in the global commons from 2016 to 2025 and beyond.

Furthermore, "access and maneuver" reflect the overall importance of operational access and freedom of action, while "global commons" delineates those

areas of sea, air, space, and cyberspace that belong to no one state. JAM-GC acknowledges that "access" to the global commons is vital to U.S. national interests, both as an end in itself and as a means to projecting military force into hostile territory.

Solution to an Operational Problem

JAM-GC puts forth an evolutionary approach to joint force operations that centers on enhanced all-domain integration across Service and component lines in order to develop a force that can continue to ensure freedom of action in the global commons despite increasingly sophisticated A2/AD threats. The concept's operational problem statement is summarized thus:

The joint force must be able to maintain access to and maneuver through portions of the global commons, project power, and defeat an adversary attempting to deny freedom of action via the employment of A2/AD capabilities.

The tactics and military strategies employed in the global commons must adapt to keep pace with potential adversaries' technological advances, including improvements in positioning and timing, guidance, propulsion, computing power, sensing, accuracy, and signature. In an era of a "leaner" force structure and increased proliferation of advanced threat and weapons technologies, countering an adversary with the potential for numerical superiority and near technical parity is at the heart of JAM-GC's operational problem.

Building Blocks

To meet the challenges of the operational problem, the future joint force must be distributable, resilient, and tailorable, as well as employed in sufficient scale and for ample duration. The concept further defines and explains this particular set of required characteristics for the joint force and why they are key to the success of joint operations in a future contested environment:

United Launch Alliance Delta IV-Heavy rocket carrying National Reconnaissance Office payload launches from Space Launch Complex-6, August 28, 2013, at Vandenberg Air Force Base (U.S. Air Force/Yvonne Morales)

- Distributable: "the ability to disperse, reposition, and use a variety of bases and operating locations, while retaining the ability to maneuver and concentrate combat power"
- Resilient: "the ability to recover rapidly from adversity and setbacks, which usually come in the form of combat losses"
- Tailorable: Forces available to the joint force commander that "can be readily commanded, controlled, and employed in any necessary temporary or permanent structure to accomplish assigned missions"
- Sufficient scale: Examples of increasing capacity include increasing range, carriage, and loiter times of existing platforms; expanding the number of partners conducting operations together; and increased use and integration of commercial systems.
- Ample duration: U.S. and allied forces must have necessary "staying power." A key feature must be a logistics system that provides redundancy and timely access to resources to withstand interruption, corruption, and attrition.

E/A-18 Growler assigned to "Gauntlets" of Electronic Attack Squadron 136 lands as USS *Ronald Reagan* and USS *Independence* conduct maneuvers during Rim of the Pacific 2014 (U.S. Navy/Conor Minto)

While JAM-GC emphasizes these key elements of joint force integration, other elements of national power—that is, a whole-of-government and coalition approach—including diplomatic, information, military, economic, financial, intelligence, and law enforcement should also be well integrated with joint force operations.

Relationship to Other Concepts

The January 2012 Defense Strategic Guidance states, "The United States will continue to lead global efforts with capable allies and partners to assure access to and use of the global commons . . . by maintaining relevant and interoperable military capabilities." One of 10 primary missions it identifies for U.S. forces is to "Project Power Despite Anti-Access/Area Denial Challenges." Several joint operational concepts align under this strategic guidance to address the access challenge of projecting U.S. military power from the homeland into contested-entry operations at overseas locations in all five warfighting domains.

The Capstone Concept for Joint Operations sets the tone and the stage for the family of joint operational concepts. This concept describes potential operational concepts through which the joint force of 2030 will defend the Nation against a wide range of security challenges. JAM-GC builds on the established central JOAC idea of cross-domain synergy. But JAM-GC operationally advances JOAC's ideas with a more specific and detailed conceptual design. JAM-GC further builds on force development and management activities outlined in the Joint Concept for Rapid Aggregation and thus complements and seeks to set conditions for the operational ideas of follow-on operations in the Joint Concept for Entry Operations. Finally, realizing the value and necessity of being able to sustain operations, JAM-GC complements and relies on the "globally integrated logistics" envisioned in the Joint Concept for Logistics.

Commitment to Implement

Substantial work to develop methods and capabilities to address the A2/AD military problem set continues. Through the further development and transition and application of the JAM-GC concept, the Services—working with allies and partners—remain committed to forging a closer and more resilient, networked, and

integrated force capable of establishing and maintaining freedom of action and operational access whenever and wherever it is needed. These areas will require increased attention and focus for operating and prevailing in the emerging sophisticated, challenging—and lethal—contested environments.

JAM-GC will address a full spectrum of integrated capabilities for A2/AD threats to include both nonmatériel and matériel solutions. JAM-GC seeks to identify capability gaps, provide integrated joint capabilities, and develop doctrine, organization, training, matériel, leadership and education, personnel, and facilities solutions (with an emphasis on jointness.) The concept will not replace the Services' unique programming, requirements, and acquisition processes, nor will it direct any specific funding actions. It will be available to inform the Services' budgeting processes and provide a medium through which all four Services can ideally collaborate to improve budgeting efficiencies.

While JAM-GC addresses current and anticipated A2/AD threats for the next decade and beyond, it does not specifically endorse promising yet undeveloped future capabilities. Reliance on existing systems and capabilities is paramount, but if such advanced capabilities emerge and can be fielded, they will make JAM-GC's approach more effective.

Will JAM-GC Be Realized?

The desired realization of the JAM-GC concept will be a joint force—ready and trained—with interoperable land, naval, air, space, and cyber forces having the necessary capabilities to overcome and defeat the increasingly sophisticated threats that potential competitors are now fielding. Such a realization will in turn sustain the ability of the joint force to project military power wherever and whenever needed to help counter aggression or hostile actions in the global commons against U.S. and allied interests.

The challenges are real; intensifying and proliferating A2/AD threats will require sustained and focused institutional examination and attention. Additionally, any of the ideas, initiatives, and efforts undertaken under JAM-GC will require realistic testing, evaluation, and validation before transition and application in the field. It will require unprecedented joint cooperation and learning.

Early returns on JAM-GC are promising. Actions taken in concert with the transition and application of this concept are already informing and guiding related nascent capability and force development efforts by the Services. The concept supplies a unifying framework for collaboration among military departments and Services to address the increasingly sophisticated threats. Sustained and integrated efforts by the Services to develop the capabilities envisioned with this concept's ideas can impose costs on potential competitors, deter conflict, and enable continued U.S. and allied access to and maneuver in the global commons while ensuring operational freedom of action. The ability of the joint force to globally project U.S. military power in support of national objectives will remain—as General Dunford affirmed—a "source of strength." JFQ

Notes

[1] General Joseph Dunford, Jr., USMC, addresses at the annual Air Force Association convention on September 21, 2016, and the Association of the United States Army on October 5, 2016.

[2] The *Joint Operational Access Concept* (Washington, DC: Department of Defense, January 17, 2012), 1, defines the *global commons* as "areas of air, sea, space, and cyberspace that belong to no one state." The land domain is *not* part of the global commons, since all inhabitable land is possessed by some nation or entity.

[3] Weapons and methods used to counter U.S. power projection, as well as challenge access and maneuver, are collectively referred to as antiaccess/area-denial capabilities.

[4] The military warfighting domains are now generally considered to be land, air, maritime (to include subsurface), space, and cyberspace.

[5] The formal process used for the development of all joint concepts is found in the Chairman of the Joint Chiefs of Staff Instruction 3010.02E, *Chairman's Guidance for Development and Implementation of Joint Concepts* (Washington, DC: The Joint Staff, August 17, 2016).

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Joint Publications (JPs) Under Revision (to be signed within 6 months)

JP 2-03, *Geospatial Intelligence in Joint Operations*

JP 3-01, *Countering Air and Missile Threats*

JP 3-13.4, *Military Deception*

JP 3-33, *Joint Task Force Headquarters*

JP 3-59, *Meteorological and Oceanographic Operations*

JP 4-02, *Joint Health Services*

JP 4-06, *Mortuary Affairs*

JP 4-08, *Logistic Support of Multinational Operations*

JP 5-0, *Joint Planning*

JPs Revised (signed within last 6 months)

JP 1-02, *DOD Dictionary*

JP 1-04, *Legal Support to Military Operations*

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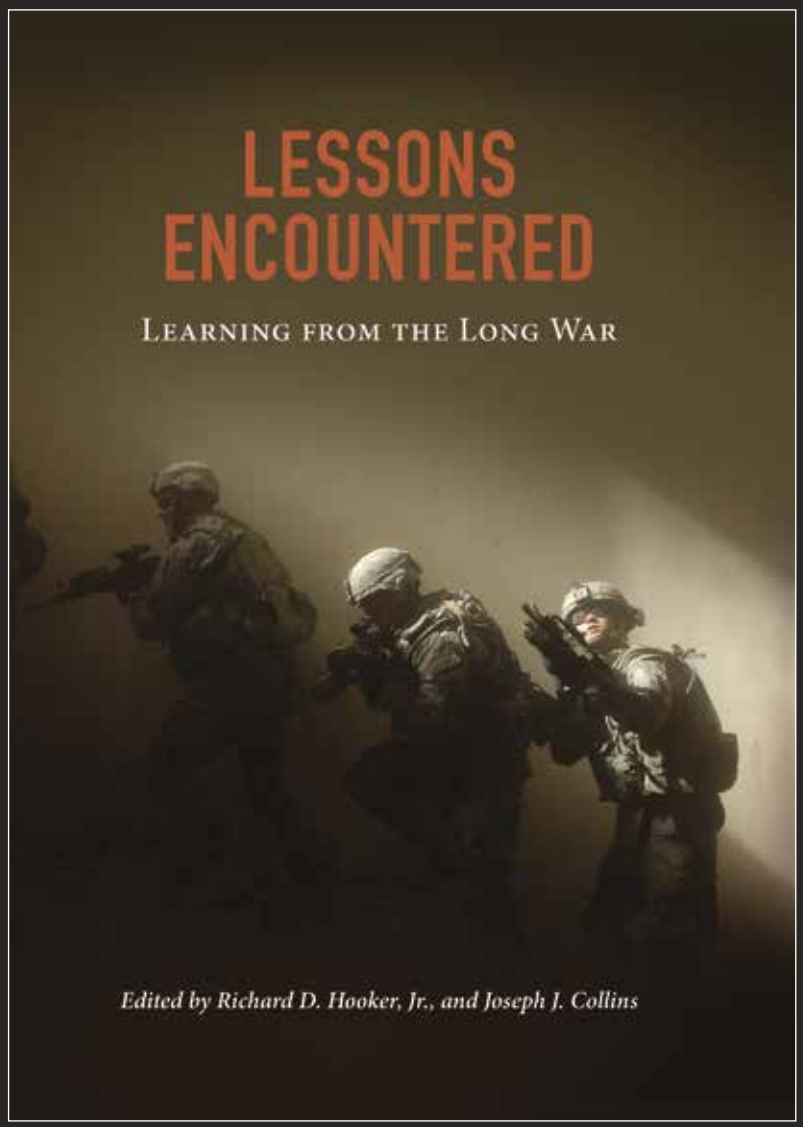
JP 4-01.6, *Joint Logistics Over-the-Shore*



From NDU Press

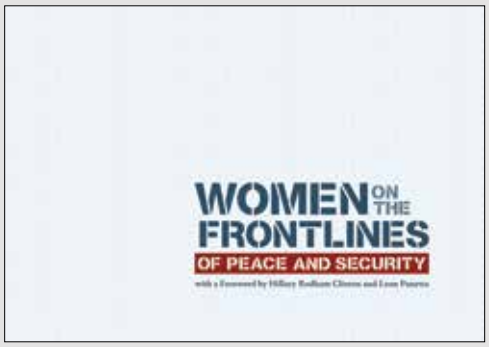
Lessons Encountered:
Learning from the Long War
NDU Press, 2015 • 488 pp.

This volume began as two questions from General Martin E. Dempsey, 18th Chairman of the Joint Chiefs of Staff: What were the costs and benefits of the campaigns in Iraq and Afghanistan, and what were the strategic lessons of these campaigns? The Institute for National Strategic Studies at the National Defense University was tasked to answer these questions. The editors composed a volume that assesses the war and analyzes the costs, using the Institute's considerable in-house talent and the dedication of the NDU Press team. The audience for this volume is senior officers, their staffs, and the students in joint professional military education courses—the future leaders of the Armed Forces. Other national security professionals should find it of great value as well.

The volume begins with an introduction that addresses the difficulty of learning strategic lessons and a preview of the major lessons identified in the study. It then moves on to an analysis of the campaigns in Afghanistan and Iraq from their initiation to the onset of the U.S. Surges. The study then turns to the Surges themselves as tests of assessment and adaptation. The next part focuses on decision-making, implementation, and unity of effort. The volume then turns to the all-important issue of raising and mentoring indigenous security forces, the basis for the U.S. exit strategy in both campaigns. Capping the study is a chapter on legal issues that range from detention to the use of unmanned aerial vehicles. The final chapter analyzes costs and benefits, dissects decisionmaking in both campaigns, and summarizes the lessons encountered. Supporting the volume are three annexes: one on the human and financial costs of the Long War and two detailed timelines for histories of Afghanistan and Iraq and the U.S. campaigns in those countries.

The lessons encountered in Afghanistan and Iraq at the strategic level inform our understanding of national security decisionmaking, intelligence, the character of contemporary conflict, and unity of effort and command. They stand alongside the lessons of other wars and remind future senior officers that those who fail to learn from past mistakes are bound to repeat them.

Available at ndupress.ndu.edu/Books/LessonsEncountered.aspx



Women on the Frontlines of Peace and Security

Foreword by Hillary Rodham Clinton and Leon Panetta

NDU Press, 2015 • 218 pp.

This book reflects President Barack Obama's commitment to advancing women's participation in preventing conflict and keeping peace. It is inspired by the countless women and girls on the frontlines who make a difference every day in their communities and societies by creating opportunities and building peace.

Around the globe, policymakers and activists are working to empower women as agents of peace and to help address the challenges they face as survivors of conflict. When women are involved in peace negotiations, they raise important issues that might be otherwise overlooked. When women are educated and enabled to participate in every aspect of their societies—from growing the economy to strengthening the security sector—communities are more stable and less prone to conflict.

Our understanding of the importance of women in building and keeping peace is informed by a wide range of experts, from diplomats to military officials and from human rights activists to development professionals. The goal of this book is to bring together these diverse voices. As leaders in every region of the world recognize, no country can reach its full potential without the participation of all its citizens. This book seeks to add to the chorus of voices working to ensure that women and girls take their rightful place in building a stronger, safer, more prosperous world.

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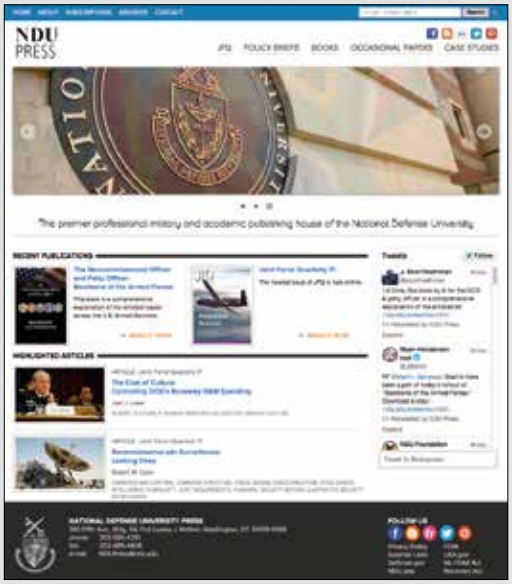

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