

**REVISITING THE ROLES AND MISSIONS OF THE
ARMED FORCES**

HEARING

BEFORE THE

**COMMITTEE ON ARMED SERVICES
UNITED STATES SENATE**

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REVISITING THE ROLES AND MISSIONS OF THE ARMED FORCES

THURSDAY, NOVEMBER 5, 2015

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

The committee met, pursuant to notice, at 9:31 a.m., in Room SD-G50, Dirksen Senate Office Building, Senator John McCain (chairman) presiding.

Committee members present: Senators McCain, Inhofe, Ayotte, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Reed, Nelson, McCaskill, Manchin, Shaheen, Gillibrand, Blumenthal, Donnelly, Hirono, King, and Heinrich.

OPENING STATEMENT OF SENATOR JOHN MCCAIN, CHAIRMAN

Chairman MCCAIN. Well, good morning. The committee meets this morning to consider the roles and missions of the U.S. Armed Forces as part of our review of our Nation's defense organization. Our recent hearings in this series have considered the first order question of geopolitics, strategy, and technology. We have asked, for example, what challenges do we face and how must our military be ready to deter, fight, and win in war, both at present and in the future. Now we seek to ask who should be responsible for what military missions.

We are fortunate to have a distinguished panel of experts to help guide us. Retired General David Deptula, dean of the Mitchell Institute of Aerospace Studies, Mr. Bryan McGrath of the Center for American Seapower at the Hudson Institute, Dr. Michael O'Hanlon, co-director of the Center for 21st Century Security and Intelligence at the Brookings Institute, and Mr. Robert Martinage, who is a senior fellow at the Center for Strategic and Budgetary Assessments.

Mr. Martinage, did I pronounce that correctly?

Mr. MARTINAGE. Martinage.

Chairman MCCAIN. Martinage. Please accept my apologies.

Mr. MARTINAGE. That is fine.

Chairman MCCAIN. I am sorry. To find out the last time this question arose in missions was seriously deliberately and clearly defined by senior leaders, you have to go back to March 1948. It was then in the aftermath of a World War and the creation of what would become the Department of Defense. In an effort to resolve confusion and quell rivalries between the services that the first Secretary of Defense, James Forrestal, brought together the service chiefs for four days in Key West to resolve these questions.

The resulting 14-page document, commonly known as the Key West Agreement, defined the role of each service in achieving the core military missions of the day. Simply put, the Navy was tasked with fighting other navies, the Army with fighting with other armies, and the Air Force with other air forces. President Harry S. Truman signed the final agreement in April of 1948. This was the last time the Commander-in-Chief formally approved the roles and missions of the armed services.

To be sure, inter-service rivalry did not end at Key West, and efforts have been made over the years to review roles and missions, but many of these efforts have come to naught. The congressionally-mandated 1995 Commission on Roles and Missions even dismissed the questions it was asked to answer—who does what.

The result has been far from ideal. To the extent that the roles and missions of the armed services have evolved, they have done so largely in ad hoc and reactive ways, driven more by budgetary pressures than strategic direction. Far too often this has led to duplication of effort, inadequate responses to increasingly important missions, programs of record that continue along despite changes in the strategic environment, and inter-service fights over resources that give papered over in the belief that everyone can do everything with roughly equal shares of the pie.

There are other reasons as well why a review of roles and missions is timely. First, while our military is still composed of distinguished services, as it should be, it fights as one joint force, conducting missions that span all the domains of warfare. The Navy, for example, has a key role to play in attacking targets on land and in the air. Air Force planes armed with anti-ship missiles, have a vital role to play in winning fights at sea. Army air defense batteries are increasingly important in creating the kinds of anti-access challenges for our roles that they seek to impose on us.

The question of who does what is even more pronounced when budgets are tight. Take the mission of long-range precision strike, which is essential to our ability to project power against advanced adversaries. Aircraft carriers, long-range bombers, and ground-based missiles and rockets all have roles to play. But what is the proper balance between these capabilities, especially when a carrier now costs \$13 billion, one bomber costs half a billion dollars, and individual missiles cost millions of dollars each. What is the most efficient allocation of roles to perform this mission?

Second, the missions themselves are changing significantly. It has been a while since the Army mounted a large-scale airborne assault on to contested ground or since the Marine Corps conducted a contested amphibious landing. At the same time, unconventional missions, such as space, special operations, and intelligence, surveillance, and reconnaissance are more important than ever. Other missions like coastal defense, close air support, and nuclear deterrence continue to struggle for adequate funding and attention. Then there is a mission like cyber, which did not even exist 20 years ago, but is now absolutely central to our security.

There are serious questions about how to properly prioritize new and untraditional missions. We cannot afford for these vital functions to be orphaned within services that will undercut and underfund them in favor of parochial priorities.

I would like to hear from our witnesses how best to motivate the services, to give the attention to these new and non-traditional missions that they deserve. Should certain missions be allocated among the services? In these new domains of warfare, such as space and cyber, should we even consider creating new services, such as the Air Force was created seven decades ago in recognition of the vital role of air power?

I would also be interested in our witnesses' view on the value of competition both between and within the services. "Service rivalry" has become a derisive term. It is often contrasted with service collaboration, unity of effort, and jointness. Is that justified, or can competition of this kind actually create the necessary incentives for excellence and efficiency? When the services do compete, as they inevitably will, how are those fights resolved and by whom? Do we get clear, creative courses of action regardless of who wins and loses or homogenized, lowest common denominator options that cost more and deliver less?

Finally, I recognize that civilian and military leaders at the Department of Defense [DOD] are wrestling with many of these questions now, and that is encouraging. But they, like their predecessors, face the challenge of how to affect enduring change. The defense bureaucracy in the services have a healthy track record of reverting back to their original forms and functions once they are overseers of the moment move on.

The Key West Agreement was important because the Secretary of Defense himself with the Service Chiefs and the Commander-in-Chief personally directed the roles and missions assigned to each service. Should we be asking the Commander-in-Chief, either this one or the next one, to do the same today?

I look forward to this testimony of our witnesses.
Senator Reed?

STATEMENT OF SENATOR JACK REED

Senator REED. Well, thank you very much, Mr. Chairman, and I would like to join you in thanking our witnesses for their willingness to appear today to provide their thoughts on the roles and missions of the military services and providing for the defense of the Nation. It is clear from your past week and your prepared testimony for today's hearing that each of you bring unique and valuable perspectives on this issue. Thank you, gentlemen.

Two of our site experts that have recently come before our committee, Shawn Brimley and Paul Scharre, wrote last year that, "Today's military is the product of history, not of the missions and threats it now faces. American forces are hampered by overlapping roles and missions, arcane organizational structures, Cold War platforms and programs, and recruiting practices detached from modern means. If it were starting fresh, this is not the military the United States would build."

Now, while starting from scratch is obviously not an option, I hope today's witnesses will offer their own thought-provoking proposals for smart reform that would better align the various roles and missions of our military services, reduce redundancy where appropriate, and make our joint forces more effective. The current and projected budget constraints facing the Federal Government

require that we seek efficiencies while at the same time endeavoring to shape our military for the threats we are most likely to face in the future.

While I suspect that all of our witnesses would support larger budgets for all of our Military Services, I hope that your testimony will take into account the very real budget realities facing the Department of Defense, and offer recommendations for prioritizing limited resources to most effectively risk to our national security.

Some may also argue for better readiness and capability of other parts of the government, such as the Departments of State and Homeland Security. These departments also include important elements of national power and security. The domestic discretionary budget is also constraining these elements of our national power.

The 1986 Goldwater-Nichols reforms necessarily focused on the importance of jointness in the aftermath of several high-profile military operations that exposed deficiencies in our operating concepts. While these reforms were critical to enabling today's joint force, they may have also had the unintended consequences of blurring the lines between traditional roles and missions assigned to the Military Services, and allow for duplication in some capability areas as new threats and technologies have emerged over time.

I would be especially interested in the thoughts of our witnesses on the delineation of responsibilities in mission areas that have arisen since the passage of Goldwater-Nichols, most notably related to the use of cyber and unmanned aerial vehicles. I would also say unmanned undersea vehicles.

Congress has recognized the need to continue to address the responsibilities of the military services as new threats and technologies arise by mandating periodic roles and mission reviews. Unfortunately, these reviews, namely the Quadrennial Roles and Missions Review, have largely been unsuccessful in accomplishing their appropriateness. According to the Government Accountability Office, these reviews fail to "clearly identify the components within the Department that are responsible for providing the core competencies and capabilities needed to address each of the primary missions of the Department of Defense, or plans for addressing any capability gaps or unnecessary duplication." I hope our witnesses today will provide any suggestions they might have for improving the output of these efforts.

It is extremely important to take a look at all of these issues, and I, again, commend the chairman for not only these series of hearings, but for his intention to carry forward with a significant review of our fundamental defense structure and policies. With that, thank you, Mr. Chairman, and thank you, gentlemen.

Chairman McCAIN. I thank you, General. Welcome. Please proceed. By the way, all witnesses' complete statements will be made part of the record. General Deptula?

STATEMENT OF HON. LIEUTENANT GENERAL DAVID A. DEPTULA, USAF (RET.), DEAN, THE MITCHELL INSTITUTE FOR AEROSPACE STUDIES

General DEPTULA. Mr. Chairman, Senator Reed, and members of the committee, I am honored and humbled that you invited me here today. I assure you I will do my best to keep my comments

brief, up front, and appreciate you putting an extended version of my remarks in the record.

I will tell you all right up front that I believe if we want to maintain our position as the world's sole super power, we need to have the strongest Army, Navy, Marine Corps, and Air Force in the world.

I am the product of a military family. My grandfather was an immigrant and served as an Army infantryman in World War I. My uncle was a marine at the tip of the spear in World War II, Korea, and Vietnam. My dad served in World War II and the Pacific as a B-29 maintenance officer. Later, he helped win the Cold War, participating in nuclear weapons development and testing. He is the most dedicated Air Force officer I know, and now almost 95, he is still my inspiration, and I am honored that he is with us today in the audience.

Chairman MCCAIN. He is certainly welcome. Thank you, sir, for your service.

General DEPTULA. World War II and the Cold War posed for my uncle, my dad, and many others of the Greatest Generation significant challenges. As a result of their efforts, the United States prevailed against incredible odds. It is now up to us to confront our own set of circumstances.

Today my son carries on a proud tradition by serving in the military. Today's world presents him and his brothers and sisters in arms a stark picture. The United States faces a burgeoning set of threats around the globe, but has fewer resources to meet them. One of the only ways to prevail is to optimize our service roles and missions to evolve their relationship from one of interoperability, which was an objective of the Goldwater-Nichols Act, to one of interdependency, the next step in the progress of our military, and perhaps the focus of the McCain-Reed Act.

Now, getting to interdependency will require a more clearly delineated assignment of roles and function than exist today. As you gentleman have already noted, while updated in 2010, they do not provide the kind of distinction among the Services that current budgets, technologies, threats, and the strategic environment demands.

So how does the Air Force fit into this environment? The strategic narrative of the Air Force is to provide our Nation global vigilance, global reach, and global power. These tenets emphasize not only the agility of Air Force capabilities, but also the flexibility and options they provide our civilian leadership. That said, our defense institutions are woefully stuck in the last century. The last serious roles and missions review was held in 1995. It is time for a 21st century review as 21st century threats present daunting challenges. We are not going to buy our way out of these challenges because the money is not there, nor are there any silver bullets. We are going to have to think our way out of these problems.

This respected committee could lead the way on defense reform if the committee considered realigning its structure to mirror modern capabilities versus some model that reflects last century military organization. Sea power is currently afforded its own subcommittee. Land and air power are batched together and named after a previous version of Army doctrine, and no subcommittees

are dedicated to cyber or space. An action you might consider to increase focus on 21st century defense is to split the Air/Land Subcommittee into one on aerospace power, one on land power, and add one for cyber operations.

In my written remarks, I offer 14 additional areas that may provide a starting point for serious review. Briefly, here are my top six. One, insert a commission on roles and missions for the 21st century into the next National Defense Authorization Act [NDAA] that will inform a new National Security Act. Two, cyber. Operation in cyberspace beg for more unification. Stand up a U.S. cyber command as a combatant command as soon as possible.

Three, information. Stand up of a vigilance command inside the Air Force as soon as possible to integrate intelligence, surveillance, reconnaissance, cyber, and space operations with a view to a future combatant command to codify information as a defense enterprise. Four, concepts of operation. Shift combatant command predilection to organize by service components to a more functional alignment of an intelligence, surveillance, and reconnaissance [ISR] strike maneuver sustainment complex, capitalizing on advancements in network capability to empowering information's ascent as a dominant factor in warfare.

Five, process. Change the primary measure of merit in DOD program decisions from individual unit cost to cost per desired effect, and do it across service boundaries, vice inside service stovepipes. Six, personnel. Change military force management from a system that values risk avoidance to one that accepts risk tolerance and rewards innovative thinking instead of punishing it.

Please notice these recommendations are not about hardware. They are focused on ideas, ideas about integrating existing and future capabilities within an agile operational framework guided by human understanding. The appropriate force structure will follow.

Just as combat tomorrow will look different than it did yesterday, so, too, should the military that prosecutes it. I look forward to your questions.

[The prepared statement of General Deptula follows:]

PREPARED STATEMENT BY DAVID A. DEPTULA

REVISITING THE ROLES AND MISSIONS OF THE ARMED FORCES

INTRODUCTION

Mr. Chairman, Senator Reed, members of the Committee, thank you for inviting me to appear today to present my thoughts on the critical issue of roles and missions of the Armed Services. I am a product of a military family. My grandfather was an immigrant and served as an Army infantryman in World War I as a private. My uncle was a Marine at the tip of the spear in World War II (WWII), Korea, and Vietnam. He was the first Marine officer to land on Green Beach at Inchon, and led a battalion in Vietnam. My Dad served in WWII in the Pacific as a B-29 maintenance officer. Later he helped win the Cold War participating in nuclear weapons development and testing, and served in research and development the remainder of his career. He is the most dedicated Air Force officer I ever knew. Now almost 95, he was, and still is, my inspiration on the value of aerospace power.

WWII and the Cold War posed for my uncle, my Dad, and many others of the greatest generation, some very significant challenges. As a result of their efforts, the United States prevailed against incredibly challenging odds. Today, my son carries on a proud tradition serving in the military and flies an Air Force fighter. It is now up to us to confront our own unique set of circumstances. The present situation paints a stark picture. The United States faces a burgeoning set of threats around

the globe, but has fewer resources to meet these challenges. The only way to prevail against such dynamics is to optimize our service roles and missions to evolve their relationship from one of *interoperability*—a goal of the Goldwater-Nichols Act, to one of *interdependency*—the next step in the evolution of our military, and perhaps the focus of a McCain-Thornberry Act.

A dollar spent on duplicative capability comes at the expense of essential capacity or capability elsewhere. Confused organizational structures lead to sub-optimal employment of forces already stretched too thin. Outdated service roles and missions parameters yield costly, inefficient acquisition programs. Clearly, things have to change—security circumstances and fiscal pressures will no longer tolerate such conditions.

I believe that if the United States is to succeed in protecting its core interests around the globe and deter aggression, we need to have the strongest Army, Navy, Marine Corps, and Air Force in the world. However, fiscal realities dictate that the military will have to make difficult choices to balance near-term operational readiness with longer-term needs. That is the only way we will attain affordability imperatives. This demands much more clarity regarding goals and desired outcomes, with special emphasis on what it means to project effective, prudent power in the 21st century. These dynamics are yielding a budget-driven roles and missions competition, but a thoughtful conversation regarding national interests and strategy has yet to occur. I commend Chairman McCain, Senator Reed, and the rest of the Senate Armed Services Committee for starting this conversation by initiating this series of hearings regarding our national security architecture.

I believe the biggest challenge our defense establishment faces is one of institutional inertia. We are well into the information age, yet our systems, organizations, and concepts of operations are rooted in the industrial age of warfare. This in addition to the fact our diplomatic, economic, and informational elements of our national security enterprise are also largely unchanged since the mid 20th century, and require more integration than ever before. We can no longer afford this misalignment—not only is it costly, but it also projects undue risk.

Change with respect to the military involves four principal factors: first; *advanced technologies* that, because of the new capability they yield, enable the second element; *new concepts of operation* that produce order-of-magnitude increases in our ability to achieve desired military effects. The third element is *organizational change* that codifies changes in the previous elements, or enhances our ability to execute our National Security Strategy. It is through these lenses that we need to be measuring our progress. The final essential element to progress is the *human dimension*. People are fundamental to everything we do, especially when it comes to leadership.

THE 21ST CENTURY SECURITY ENVIRONMENT

First, our defense strategy must contend with non-state and transnational actors; a rising economic and military powerhouse in China; a resurgent Russia; declining states—some with nuclear weapons; the increasing likelihood of nuclear weapons proliferation that the recent deal with Iran does not attenuate; evil actors of the most despicable nature; and a dynamic web of terrorism.

Second, the pace and tenor of our lives has been irrevocably altered by the acceleration of change. Global trade, travel, and telecommunications have produced major shifts in the way we live. Such developments are not isolated. Speed and complexity have merged, and now permeate the conduct of warfare. Consequently, one implication for our future military is that it must be able to respond rapidly and decisively anywhere on the globe at any time. As recent events have demonstrated, key security events now unfold in a matter of hours and days, not months or years. The window to influence such circumstances is increasingly fleeting.

Third, we have to contend with increasing personnel and procurement costs at a time when defense budgets are decreasing. Therefore, *the provision of flexibility of response across a wide spectrum of circumstances* should be foremost among the decision criteria we apply to our future military.

Fourth, in the information age, we have to acknowledge that deploying large numbers of American military forces onto foreign soil to nation-build vice accomplish a defined mission and leave, is simply counter-productive to securing our goals and objectives. Strategies centered upon occupation and attrition warfare expose American vulnerabilities, invariably result in anti-American backlash and domestic disapproval, and often create destabilizing effects within the very state or region they are intended to secure.

Fifth, we must actively pursue and invest in options we can use to counter the increasingly advanced anti-access strategies and technologies our adversaries are

likely to employ. Systems such as precision weapons and stealth projected incredible lethality at the end of the Cold War. Those capabilities did not disappear. They continued to advance and proliferate. One quarter of a century later, it is foolhardy to assume U.S. Forces will be afforded freedom of action in future engagements. Our strategies, planning assumptions, acquisition programs, and training need to account for this reality.

Sixth, we need to challenge our adversaries' domination of public perception in the information age. We have to learn how to use the application of accurate, compelling information as a core element of our security apparatus. We are woefully inept at strategic communications and too often are put in a reactionary vice proactive position when it comes to this core tenet of the information age.

Finally, information's value also extends past the news cycle. Just as wireless connectivity, personal computing devices, and cloud-based applications are revolutionizing life in the civilian sector; these trends are also radically altering the way in which our military forces project power. Faster and more capable networks and computing capabilities are turning information into the dominant factor in modern warfare. As one Air Force commander recently remarked, "We need to understand that platforms like the F-22 are information machines far above and beyond being killing assets." Operations over Syria validate this assertion. Given this reality, it is time we acknowledge that information and its management is just as important today as the traditional tools of hard military power—airplanes, satellites on orbit, infantry, amphibious elements and warships at sea. Information and data is the force evolving all these tools from isolated instruments of power into a highly integrated enterprise where the exchange of information and data will determine success or failure in the 21st century.

These facts have major implications throughout the military enterprise—shaping key areas like doctrine, organization, training, materiel acquisition and sustainment, along with command and control. Top leaders in the policy community also need to adjust to the new realities of information age combat operations. World War II and Cold War paradigms will simply fall short when considering how to build, sustain and employ military power in the modern era.

These trends provide a starting point for considering the future with which we have to contend. Bluntly stated, all the services, Department of Defense agencies, and the other elements of our national security architecture have been slow to recognize the emerging new security environment. Our focus has remained on traditional weapons platforms and we still have institutions and processes that were designed in the middle of the last century to accommodate what we perceived to be—in retrospect—a rather simple world of kinetics and traditional domains that characterized the Cold War. To fix this, we need to supplement our traditional focus on combined arms warfare with a broader "lens" that enables us to better accommodate such elements as non-kinetic tools emerging traditional systems and the cyber domain. Excessive emphasis on traditional weapon platforms associated with combined arms warfare runs the danger of dismissing the emerging non-kinetic instruments. We cannot relive the era of battleship admirals and cavalry generals dismissing aviation as a passing fad.

Summarizing, the proliferation of technology, information flow, and the associated empowerment of nation-states, organizations, as well as individuals, presents one of the most daunting challenges our military has ever faced.

THE CORNERSTONES OF THE U.S. MILITARY: SERVICES AND COMBATANT COMMANDS

Interservice rivalry is a vivid part of American military history stretching forward from the earliest days of our Republic. The most intense period of competition occurred at the close of World War II. Drawing on the lessons of that war and seeking to address years of agonizing political turmoil fueled by service rivalries, President Truman prodded Congress to pass the National Security Act of 1947 and its first amendment in 1949. This legislation established the fundamental postwar defense organization for the United States. They created, among other entities, a new Department of Defense (DOD), intended to unify the earlier separate Departments of War and Navy, and an independent air force as a third military department within DOD.

In 1958, additional legislation created the unified combatant commands that were designated as the headquarters for the conduct of actual warfare. However, this objective remained theoretical for many years, with the services remaining dominant in all aspects of organization, training, equipping, and planning. Land, sea, and air forces tended to operate autonomously. A service would develop weapons and equipment without regard to their compatibility with that of the other services. Army and Navy communications systems couldn't talk to one another; equipment was acquired

by the Army and Navy that could not be loaded into Air Force cargo planes; and each service had its own doctrine for employing aircraft. This did not change until the Goldwater-Nichols Act of 1986. Its passage prompted when years of inter-service dysfunctionality manifested tragic results during the 1980 Iranian hostage rescue mission and the flawed invasion of Grenada three years later. Reformers demanded a change to afford joint conduct of warfare.

The Goldwater-Nichols Act had no intent to erase the differences in service philosophies and cultures, but it was hoped that the unique characteristics and strengths of each service could be molded to complement one another so the whole would be greater than the sum of its parts. Jointness became the mantra of the Armed Forces after passage of the Goldwater-Nichols in 1986. So just what did the Goldwater-Nichols act do? What is proper meaning of jointness?

Here are the basics of the Goldwater-Nichols Act. First, no longer do the individual services fight our nation's war—the unified combatant commands do the fighting under a designated joint task force commander. There are two kinds of unified combatant commands—regional and functional. The regional commands are Pacific, European, Central, Southern, Africa, and Northern Command. The functional commands are Transportation, Special Operations, and Strategic Command.

The services organize, train, and equip what are called service component forces that are assigned to the unified combatant commands under a joint task force commander to actually conduct operations. The way America fights essentially boils down to this: individual services do not fight—they organize, train, and equip. It is the combatant commands that fight under the unifying vision of a joint force commander.

Jointness means that among our four services, a separately developed and highly specialized array of capabilities is provided through service or functional components to a joint force commander—his or her job is to assemble a plan from among this “menu” of capabilities, applying the appropriate ones for the contingency at hand. It does not mean four separate services deploy to a fight and simply align under a single commander. It does not mean, “going along to get along.” Nor does jointness mean everybody necessarily gets an equal share of the action. Jointness does not mean homogeneity. In fact, what is often misunderstood about joint operations is that its strength resides in the *separateness* of the service components.

Joint force operations create synergies because they capitalize on each services' core functions—skill sets that require much time, effort, and focus to cultivate. It takes 20–25 years to develop a competent division commander, a surface action group commander, a Marine Expeditionary Force commander, or an aerospace expeditionary force commander.

The beauty of the joint approach to warfare is that every contingency will be different, and that a joint approach allows a joint task force commander to tailor make a force optimal and unique to the particular contingency facing him or her. The service component force make-up for Operation Desert Storm (or the first Gulf War) was very much different than that required for Operation Allied Force (the air war over Kosovo and Serbia) which was very much different than that required for Operation Unified Assistance (the South Asia Tsunami relief), which is very much different than that required for Operation Inherent Resolve (the current counter Islamic State operations), and so on.

Since the passage of the Goldwater-Nichols Act, a joint approach was first intended to move contingency organizations and operations from independent, de-conflicted, service approaches, to sustained *interoperability*. Today, we need to move beyond interoperability to *interdependency*, which means the service components rely on capabilities brought to the joint fight by other service components. The services need to shed their historical predilection for self-sufficiency, or “owning” everything required to fight and win independently. The reason joint task force operations create synergies is because an *interdependent* approach allows each service to focus on, hone, and offer *its* core competencies. Services trying to control everything is unsustainable from a resource perspective and yields sub-optimized, compromised capabilities. Control of all the capabilities in a fight is the role of the combatant commanders when employing forces. It is far better for the services to invest and excel in their respective domains.

The notion can be likened to doctors concentrating on healing the sick, and firemen focusing on rescuing people from burning buildings. Drawing out this analogy, such an approach means joint task force operations have at their disposal the abilities to both put out fires, and to cure sick people, no matter which is needed where—and both of these important tasks are being performed by specialists in their fields. The unfavorable alternative to interdependence is to have firemen also attempting surgical procedures, and physicians darting in and out of blazing structures between seeing patients.

To be joint we require *separate* services, and it is an *imperative* that service members understand how to best exploit the advantages of operating in their domains. Articulating the virtues and values of a member's service is being "joint." However, when a single service attempts to achieve warfighting *independence* instead of embracing *interdependence*, "jointness" unravels, warfighting effectiveness is reduced, and costly redundancies and gaps likely abound. The last thing we need to do is turn back the clock on Goldwater-Nichols by allowing services to continue to develop redundant capabilities, thereby rejecting the premise of joint warfighting.

The degree of jointness exhibited since 1986 has ebbed and flowed based on the commanders in charge, and the degree—or lack thereof—that top U.S. military leaders have encouraged joint organization and execution. Let me offer some examples of the real-world ebb and flow of jointness. I was truly blessed with a career that found me in multiple joint and combined operations that were then interspersed with headquarters assignments and congressional commissions that were each focused on joint warfighting and organization. In one of those assignments I was the attack planner for air operations in Operation Desert Storm. In doing so I really did not care what service—or country insignia—was painted on the side of an airplane in constructing those strikes; it was capability that mattered—what kind of weapons could they deliver—dumb bombs or precision munitions? How long could they stay on station? Did they require airborne refueling? Could they defend themselves? Etc.

In one instance, I wanted to use the Army Tactical Missile System (ATACMS) to suppress enemy surface-to-air missiles to eliminate the threat these systems presented to our attack aircraft. The Army commanders denied that request claiming that the ATACMS were a Corps asset and they needed to "save" them for use by the Army Corps later in the war. While I am not arguing with the requirement, I take issue with the parochial solution. The parochial interests of Army "ownership" of that capability prevented a valuable application of it in a joint context. Today we have matured in the context of joint use of ATACMS as evidenced by its incorporation in the integrated planning of potential operations in places like Korea, but the underlying question remains—why are services procuring weapons to achieve effects already possessed by another service? Today's variant of this situation is very evident with the overlap among the services with medium/high altitude unmanned aerial vehicles—also known as drones.

In another example, the Marines were dogmatic about who and how "their" aircraft would be tasked. This was the first major combat operation since the passage of the Goldwater-Nichols Act, and much was at stake between those who held on to old ways of service fighting, and those taking a joint approach. Lt General Chuck Horner—the first joint force air component commander—stated that if you were going to fly you had to be on the air tasking order to support the entire joint effort. That meant your tasking would be accomplished in a unified manner as part of a theater-wide plan. However, the Marines disagreed and came up with ingenious ways to ignore joint requirements and pursue their own unilateral objectives.

To get into the combat zone as an aircraft you needed to transmit a specific identification code known as IFF. One day, the Marine in my planning organization told me what the Marine Air Wing was doing to use their aircraft as their wing commander wanted, vice what the joint force air component commander planned. They would pick a two-ship that was planned to attack a particular target in the area of operations, and subsequently use the same IFF code to surreptitiously allow 24 aircraft to gain access into the combat area, and engage outside of joint command and control. This undermined the intent of unified joint air operations.

The Marines have now codified in "joint" doctrine that they do not have to support joint force air component commander assigned missions until all Marine requirements are satisfied. Then, and only then, will Marine aircraft engage in support of the joint fight. The bottom line is that with unparalleled skill in bureaucratic maneuvering, the Marine Corps have actually enconced their parochial position on the aircraft in their inventory into joint doctrine. When the United States engages in combat, it has national interests, not service interests. Our doctrine needs to reflect this.

Let's jump forward 10 years to the opening nights of Operation Enduring Freedom (OEF). In this operation I was the director of the Combined Air Operations Center (CAOC) conducting air operations over Afghanistan. We had planners from all the services in the CAOC, and the difference regarding service component cooperation and teamwork was amazing compared to Desert Storm.

One night the commander of the carrier air group who was working as the Navy liaison to the aircraft carrier operating in support of the OEF air operations, and without having to be asked, had the weapons reconfigured on the aircraft carrier deck to BLU-109 penetrating bomb bodies. He was part of a broader joint enterprise

and knew what air operations were going to be targeting. This may not seem like a big deal, but it was an indicator that this individual was so attuned to the rapidly changing battle plan that he initiated necessary changes to facilitate combat operations without waiting or having to be asked. That sort of cooperative attitude is what ensures victory.

There are many stories like these—demonstrating both good and bad examples of jointness. Unfortunately, since the beginning of the second phases of both operations in Iraq and Afghanistan, we have moved further away from the intent of Goldwater-Nichols than we have closer to it.

We never established a true joint command organization in Afghanistan or Iraq. The U.S. Central Command (CENTCOM) leadership merely put a “J” in front of established Army organizations and passed them off as a “joint task force.” Look at the organizational diagram for Operation Anaconda (2002) and compare that chart with the organizational diagram of the 10th Mountain Division deployed—there is no difference except the title of the chart. There was a multi-national *CORPS* Iraq (MNCD), but no Joint Task Force-Iraq. In Afghanistan there was an International Security Assistance Force (ISAF), and an organization called United States Forces Afghanistan, but it had no service components. This presented a major problem because it inhibited true collaborative, cooperative strategy development and execution at the operational and tactical levels.

The only way we will be able to consider alternate strategies and improve available courses of actions is to apply the joint process as it was intended. Otherwise, we will get locked into dogmatic courses of action that align with one service’s view of the world, not a balanced enterprise approach.

We are repeating this single service dominance again with CENTCOM’s organizational structure associated with Operation Inherent Resolve—the current operations against the Islamic State. The Commander in Chief (the President) has clearly stated that there will be no combat operations on the ground in either Iraq or Syria performed by United States Army or Marine ground forces, and that United States ground forces in the region will only act in an advise and assist capacity. The only direct application of U.S. military force in the region is airpower, but the designated joint task force commander for Operation Inherent Resolve was originally the CENTCOM Army component commander, recently replaced by a separate Army three-star general. How does this organizational arrangement optimize force employment when the service component with the preponderance of force and expertise (Air Force) in the application of force is not in command? We would never ask an infantry officer to get into an F-15 and execute a combat mission, so why are we executing this way at the strategic level? The earlier example of firemen doing surgery and *visa versa* comes to mind.

Functional versus service component command organizations aim to optimize our military effects regardless of which service component provides them. First employed in Operation Desert Storm, the Joint Force Air Component Commander (JFACC) did not care less about what service from which an aircraft came. The operative means of including or excluding a particular service aircraft in the attack plans was determined by the capability the aircraft provided, not the service that provided it. This is the essence of joint warfare. To date, Joint Force Land Component Commanders (JFLCCs) do not do this type of integration. In OIF, while there was a nominal JFLCC, the Marines proceed up Iraq on the east side of the Euphrates, and the Army on the west. That was deconfliction, not integration. A Joint Force Maritime Component Commander (JFMCC) does not really execute joint command—unless combined with another nation’s ships—because only the Navy possesses combat ships.

However, while Air Force officers are perhaps the most joint of all the services (almost half the Air Force budget goes to enabling the other military services), they have been historically excluded from joint command and staff positions. To optimize the solutions that our military provides to the nation, it is imperative that the options of exploiting the third dimension of aerospace be well understood and considered in military course of action development, planning, and execution. However, the military can’t do any of those activities if Air Force leadership is absent from the key military organizations involved. To put this in context, here are the facts why this is an issue, and requires attention. From 2006 to early 2010, there were no U.S. Air Force officers in any of the top 11 positions in the Pentagon—the Chairman, the Vice Chairman, the Director, the J-1, 2, 3, 4, 5, 6, 7, or 8 on the Joint Staff—almost 4 years with no leadership position on the joint staff.

A look at the historical record of how the Air Force has fared in command assignments in the combatant commands is quite revealing. Since the establishment of *regional* combatant commands—the warfighting commands—on January 1st, 1947, there have been a total of 105 commanders—only 6 have been Air Force officers.

That is less than 6 percent of the regional combatant commanders in the *entire history* of the Department of Defense have been from the Air Force. There is a story behind those statistics, and it is not a good one from a joint perspective. The issue here is not simply that the Air Force has not been given its “fair share” of joint task force command assignments, but that far more than just 6 percent of those areas of responsibility could have benefited from an air-centric perspective, as is the case in today’s fight against the Islamic State. Furthermore, the Air Force needs to look at itself in the mirror in this regard to appreciate more honestly how it grooms, selects, and offers officers for these critical positions. The situation involves more than just other-service prejudice and turf protection.

There is a very real difference of having a surface commander in command who believes all the other service components exist to provide support for surface operations; and a truly joint warfighting organization that seeks to build the best strategy without regard to domain or service. The best way to secure this outcome is engendering truly joint processes where soldiers, sailors, Marines, and airmen offer their expertise and perspectives to contribute to the objective defined by a joint force commander. However, all the formal doctrine, doctrine manuals, and agreed joint principles and practices in the world will be of no practical impact and worth without COCOM and joint task force commanders of whatever color of uniform prepared and determined to do the right thing in the national interest over their service interests. It can be accomplished—Gen Norman Schwarzkopf is an example of an Army general who commanded a joint operation with a joint perspective.

The U.S. Air Force and National Security

Given the severity of the financial pressures facing the nation, it is important to reflect on why the nation has an independent Air Force. Services do not exist for their own benefit—they must stand forth as effective and valuable tools to implement American interests around the globe.

The strategic narrative of the Air Force is to provide our nation *global initiative*. The Air Force has codified its strategic objectives as providing Global Vigilance, Global Reach, and Global Power. The global initiative enabled by these tenets emphasizes not only the agility of airpower capabilities, but also the flexibility that such capabilities provide to civilian leaders.

Essentially, the Air Force is a capabilities-based force. This actuality makes it the nation’s strategic hedge regarding future challenges. This is a *highly* desirable characteristic considering that we are *horrible* predictors of the future.

Five unique contributions define the US Air Force in the context of its objectives of achieving Global Vigilance, Global Reach and Global Power—first, gaining control of air, space, and cyberspace; second, holding targets at risk around the world; third, providing responsive global integrated ISR; fourth, rapidly transporting people and equipment across the globe; and fifth, underpinning each of these unique contributions with robust, reliable, and redundant global command and control. However, the most important core competency of the Air Force is pervasive throughout all of these—and that’s innovative thinking; the kind of thinking that manifest’s itself in our Airmen over the history of the Air Force. As Air Force airmen, we embrace the ability to rise above the constraints of terrain, *literally*, and to transcend the strictures of the horizontal perspective.

Before flight, wars were fought by strategies that hinged upon attrition, annihilation, and/or occupation. Surface warfare climaxed in World War I, with ground forces launching successive attacks over a narrow band of territory for nearly half-a-decade. The cost in lives and resources was overwhelming. Pioneering aviators flying over the battlefields realized that the air domain afforded an alternate path to secure victory. Instead of fighting foot-by-foot to capture enemy territory in a linear fashion, airmen could fly past opposing forces to strike critical centers of gravity, as well as over opposing forces to present them a maneuver force from the third dimension. Deprived of the means to sustain their fight, and coming under attack from above, an adversary could be weakened to ultimately face defeat.

Turning the potential of this theory into reality took many years, resulted in countless lessons learned, and stimulated tremendous technological innovation. Throughout it all, Airmen remain fixed on their objective: providing our country’s leaders with policy options to secure objectives effectively and efficiently, without projecting unnecessary vulnerability. The same vision holds true for the men and women serving in today’s Air Force.

Long-time military expert Dr. Ben Lambeth has astutely observed that today, “when it comes to major conventional war against modern mechanized opponents, the classic roles of air and land power have switched places. Fixed-wing air power has, by now, proven itself to be far more effective than ground combat capabilities in creating the necessary conditions for rapid offensive success.” Validating Dr.

Lambeth's observation, a platoon leader during Operation Iraqi Freedom (Iraq 2003) at the leading edge of the push to Baghdad by the 1st Marine Expeditionary Force, wrote: "For the next hundred miles, all the way to the gates of Baghdad, every palm grove hid Iraqi armor, every field an artillery battery, and every alley an anti-aircraft gun or surface-to-air missile launcher. But we never fired a shot. We saw the full effect of American air power. Every one of those fearsome weapons was a blackened hulk." [Nathaniel Fick, *One Bullet Away: The Making of a Marine Officer* (New York: Houghton Mifflin, 2005), p. 289.]

Evolved aerospace power has fundamentally altered the way the United States might best fight any future large-scale engagements. It has the ability to perform battlespace functions at less cost, with lower risk, and more rapidly than traditional ground force elements. Most notable in this regard is modern airpower's repeatedly demonstrated ability to neutralize an enemy's army while incurring a minimum of friendly casualties and to establish the conditions for achieving strategic goals almost from the very outset of fighting. Reduced to basics, modern airpower now allows joint task force commanders and their subordinate units both freedom *from* attack and freedom *to* attack.

Aerospace power is based on the characteristics of technology—but the invention, development, and application of those instruments flow from human imagination, and knowledge. The Air Force seizes on the virtues of air and space *to project power without projecting the same degree of vulnerability as operations in other domains*, and as a result, it provides our nation with strategic alternatives simply not available any other way.

Global/theater-wide aerospace power alone can conduct genuine parallel attacks, which means bringing multiple strategic and operational level centers of gravity under near simultaneous attack. It is through the use of parallel attack that it becomes possible to keep military operations short. Short wars brought about through parallel attack are dramatically less expensive in dollars and lives. Short is good, long is bad when it comes to war—or any other kind of strategic competition. Short should be the criteria for going to war and for executing it. Unfortunately, parallel operations and time compression can be difficult to explain and sell to those not versed in the ideas. This will be a challenge that must be overcome for both planning and for the development of a future force structure capable of parallel attack.

Aerospace options provided by the Air Force shape, deter, and dissuade so we can attain fundamental national interests minimizing the need for combat operations around the world through collaborative engagement with partner nations, deterring potential adversaries, and reassuring allies that we will be there for them with credible capabilities should the need arise. When combat *is* necessary, aerospace capabilities yield a variety of strategic, operational, and tactical effects that provide disproportionate advantages.

Today, our joint forces have the highest battlefield survivability rates not only because of the advances in medicine—but also due to our ability to rapidly get our wounded to critical care facilities—by air.

Today, unlike the contests of the past—our joint forces go into combat with more information about the threat they face, and have better situational awareness provided in near real-time, and they get that information—from air and space, through cyberspace.

Today, unlike the past, our joint task forces are able to operate with much smaller numbers, across great distances and inhospitable terrain because they can be sustained over the long-haul—by air.

Today, navigation and precise location anywhere on the surface of the earth for application in both peace and war is provided by an Air Force GPS constellation—from space.

Today, not only do surface forces receive firepower from the Air Force when they need it, but the adversaries our nation views as the greatest threat to our security are being eliminated by direct attack—from the air.

Air Force aerospace power will inevitably be pivotal in future wars. This is by far the most preeminent unifying theme that has emerged from the collective global combat experiences of the last quarter of a century. Operation Desert Storm in 1991; Operations Deliberate Force and Allied Force in the Balkans in 1995 and 1999, during the major combat phases of Operation Enduring Freedom in Afghanistan in 2001; Operation Iraqi Freedom in Iraq in 2003, Operations Odyssey Dawn and Unified Protector conducted over Libya in 2011, and most recently, combat operations in Syria and resumed operations in Iraq. These operations underline the fact that the Air Force has been at war not just since 9/11/2001, but since 1991—now approaching 25 years. That said, even the most capable air posture imaginable can never make up for fundamentally flawed strategy—or a lack thereof. That, however, is not the topic today but perhaps is worth several hearings at another time.

The nature of the modern security environment demands that we focus on not just sustaining, but accelerating Air Force contributions. Whether providing stand-alone options or serving as an integral part of joint operations, the Air Force is a vital national asset. Modern combat operations are simply not feasible without the capabilities afforded by the Air Force.

Our nation has three services that possess air *arms*—the Army, Navy, and Marine Corps. Those air arms primarily exist to facilitate their parent services' core functions—their mastery of operations on the ground, at sea, or in a littoral environment. However, our nation has only *one* Air Force. Its reason for being is to exploit the global advantages of operating in the third dimension of air and space to directly achieve our security objectives around the world. It is this unique and specific focus of the Air Force that makes aerospace power *America's asymmetric* advantage.

Said another way, while the other branches of the U.S. military have localized air arms suited to supporting their respective domain activities, only the U.S. Air Force possess the capabilities and capacity required to facilitate sustained global operations anytime, anywhere—and the perspective to exploit those capabilities in a way no other armed service has the expertise to provide.

THE RATIONALE FOR A 21ST CENTURY COMMISSION ON ROLES AND MISSIONS OF THE
ARMED FORCES

To move the Armed Forces from interoperability to interdependency requires a much more clearly delineated assignment of roles and functions than presently exists. We have the same services that resulted from the National Security Act of 1947. However, Defense Agencies have exploded since that time frame, as has the bureaucracies of the service secretariats; the Office of the Secretary of Defense staff; and the joint staff, as well as the oversight of the Department of Defense (DOD) by Congress.

There have been a multitude of roles and missions reviews since 1947—some substantive, others cursory. The current roles and missions of the armed forces are codified in DOD Directive 5100.01, “Functions of the Department of Defense and Its Major Components.” Although the current version was updated in 2010, it does not provide the kind of distinction among service functions that the current budget, technological capabilities, threat, and strategic environment that the information age demands.

A quick look at the section in the current DoD Directive 5100.01, labeled “Common Military Service Functions,” is revealing:

- h. Organize, train, and equip forces to contribute unique service capabilities to the joint force commander to conduct the following functions across all domains, including land, maritime, air, space, and cyberspace:
 - (1) Intelligence, surveillance, reconnaissance (ISR), and information operations, to include electronic warfare and MISO in order to provide situational awareness and enable decision superiority across the range of military operations.
 - (2) Offensive and defensive cyberspace operations to achieve cyberspace superiority in coordination with the other Military Services, Combatant Commands, and USG departments and agencies.
 - (3) Special operations in coordination with USSOCOM and other Combatant Commands, the Military Services, and other DOD Components.
 - (4) Personnel recovery operations in coordination with USSOCOM and other Combatant Commands, the Military Services, and other DOD Components.
 - (5) Counter weapons of mass destruction.
 - (6) Building partnership capacity/security force assistance operations.
 - (7) Forcible entry operations.
 - (8) Missile Defense.
 - (9) Other functions as assigned, such as Presidential support and antiterrorism.

Given present resource constraints, we can no longer afford such overlap. A dollar spent in a redundant, ineffective fashion comes at the expense of necessary capability. Military leaders are presently balancing an unprecedented number of high demand, low density capabilities. The only way to help address those shortfalls is to improve the way in which we organize, command, equip, and oversee our military forces.

Ensuring each of the Services are best aligned to conduct operations in their respective domains amidst austere budget conditions; a burgeoning global threat environment; and the new realities of the information age, demands that we reassess present roles, missions, and Service organization.

CRITICAL ISSUES FOR REVIEW

I have been privileged to participate in multiple defense reviews over the last quarter century starting with what was known as the “Base Force” review in 1990; the Bottom-Up Review of 1993; the Commissions on Roles and Mission of the Armed Forces in 1994/95; the first Quadrennial Defense Review in 1997; the first National Defense Panel; I directed the Air Force Quadrennial Defense Review effort in 2000/01; and I advised and informed the subsequent defense reviews during the remainder of my time on active duty.

Fortunately, I was blessed in between those activities to participate in multiple contingency operations that afforded a variety of real-world perspectives. I was the principal attack planner for the Operation Desert Storm air campaign; commander of no-fly-zone operations over Iraq in the late 1990s; director of the air campaign over Afghanistan in 2001; twice assigned as a joint task force commander; and was the air commander for the 2005 South Asia tsunami relief operations. With more than 3,000 flying hours—400 in combat—I had multiple command assignments in the F-15. My last assignment was as the Air Force’s first deputy chief of staff for intelligence, surveillance, and reconnaissance (ISR), where I orchestrated the largest increase in drone operations in Air Force history.

After that quarter century of experience I have come to the conclusion that fundamental change in the roles and functions of the Armed Forces can only come from congressional legislation. The role men and women in uniform can best play is to help share insights and perspectives regarding the present state of affairs, where change is needed, and avenues for positive reform. Ultimately, I think we need to seriously consider a Commission on Roles and Missions in the 21st Century that may ultimately inform a revised National Security Act. In that regard, I offer the following topics for consideration:

1. *Congress*: The respective Armed Service Committees could lead the way on defense reform if they mirrored 21st century capabilities versus a historic model that is reflective of last century military organization. Sea power is currently afforded its own subcommittee; land and air power are batched together and named after a previous version of Army doctrine; and no subcommittees are dedicated to cyber or space. One action you all have in your power to make to enhance oversight and focus in the all of the critical areas of defense in the 21st Century is to split the airland subcommittee into a subcommittee on aerospace power, one on land power, and add a subcommittee on cyber operations.

2. *Cyber*: As a “man-made” domain, cyber is fundamentally different from the natural domains of air, land, sea and space. The linear aspects of the traditional domains remain important, but our national security predicament cannot be understood in a holistic sense without an appreciation for the more complicated world of the man-made cyber domain. Nor can instruments from the cyber domain achieve their full potential as tools of foreign policy if they are simply filtered through the institutional command channels of traditional domains, including space. Yes, the cyber instruments can be useful in making traditional instruments of power more effective and should be tapped for this purpose. However, as is now being demonstrated on a continuing basis by our opponents, they also have autonomous potential for serving foreign policy goals independent from air, land, sea and space tools. Indeed, it is apparent that the private sector has moved far ahead of the DOD in advancing cyber technology in response to consumer demand. DOD is no longer the dominating production and marketing force.

Against this background, all the services must consider how to engage more effectively in public-private ventures with leading technology entities. Needless to say, our potential “wingmen” in the cyber domain represent a very different culture from the profession of arms. We must learn to accommodate this new culture on a partnership basis or, alternatively, accept the necessity for a substantial new non-military enterprise to create and command a force structure for deterring and operating autonomous instruments emerging from the cyber domain. Either alternative requires that the military supplement its traditional focus on combined arms warfare with increased emphases on the more holistic question of desired effects and thereby open the door to an increased appreciation for non-kinetic instruments particularly in the cyber domain.

Today’s situation in operating in the domain of cyberspace is one that begs for more unification. Accordingly, it would be appropriate and useful to consider standing up a U.S. Cyber Command as a unified command along the lines and same model of the U.S. Special Operations Command. Each service would provide component expertise to the unified command from their unique domain perspectives. At the same time, the unified cyber command could begin to establish long needed policy in this realm that is so badly needed to establish cyber deterrence, and more

effectively normalize cyber operations as fundamental in our contingency plans and planning.

3. *Space and Information:* One perspective holds that not much benefit would currently come from standing up a separate space service, but there may be value in doing so at some point in the future. We may arrive at that juncture when our activities in space move from a predominant focus on what is occurring inside the atmosphere of the earth to a greater set of activities focused outside our atmosphere. Human conflict remains on land, at sea, and in the air. Space is critical to the success of, and combat in, the domains of sea, land and air, but lethal combat today remains inside the atmosphere. Until such lethal combat moves to space, there is little need for a separate space service.

Space effects must be seamlessly integrated with the other domains in order to effectively fight and win. It happens best when integrated with the service components responsible for building the forces to fight and win. Creating a separate service would actually encourage investment in space for the benefit of the space service alone vice optimizing investment in the domains in which warfighting occurs.

Why does each service maintain their own space command? The answer is simple yet complicated at the same time. Simple, because each service is critically dependent on space, therefore it needs some level of space expertise, and the best way to get it is with a component space command. Complicated because it creates inefficiencies and sub-optimal concepts of operations. For example, we have chosen to make a joint area of “expertise” satellite communications (SATCOM). Accordingly, each service develops its own SATCOM systems. However, in a fight, we cannot effectively fight SATCOM because of the separate service responsibilities. We actually turn to a Defense Agency, Defense Information Systems Agency (DISA), to fight SATCOM. This is ludicrous, but we accept it in the name of jointness.

Because it controls the preponderance of military spacecraft, the Air Force should be the single lead service for Operational Test and Evaluation of all space capabilities and the other services should have an information command that focuses on integrating all the information effects (ISR, space and cyber). I also believe the Air Force should have such a command (“vigilance command”) to integrate ISR, cyber, and space operations. The key will be integrating information to achieve information superiority. Information superiority is the key to winning future conflict, and the sooner the Air Force stands up a “Vigilance Command” the quicker we will be able to adapt to the information age.

On the other hand, there are those who believe the nation would benefit from a separate “Space Force,” with a relationship to the Department of the Air Force analogous to the Marine Corps’ relationship with the Department of the Navy. Among the benefits of this option is that if properly organized, the Space Force would have responsibility for ballistic missile defense, and the Missile Defense Agency could be eliminated. Ballistic missile defense would be integrated with medium to high altitude air defense in this model, so the Army would have to give up Patriot and like future systems into the newly created Space Force. The Army would still be responsible for close-in air defense with their own man-portable or truck-mounted mobile missile systems, but they would give up the strategic, and theater-wide air and missile defense business. That could prove very beneficial in terms of our ability to integrate manned interceptor air defense with ground-based theater air defenses. Furthermore, with a single service (The Space Force) given responsibility for ballistic missile defense, there would be institutional backing to find practical solutions to the challenges posed by ballistic missile proliferation.

Both of these alternatives described above deserve a comprehensive review that an objective, new commission on roles and missions could provide.

4. *Personnel:* Changing force management from a system that values risk avoidance in decision-making to one that accepts risk tolerance as a minimum, and rewards innovative thinking. We need to create a culture and environment that encourages innovative thinking instead of discouraging it. More bureaucracy in the Pentagon, and in various headquarters staff does not help combat capability. It is worth noting the size of the Pentagon that won World War II was far smaller than the present enterprise.

5. *Concepts of Operation:* The United States military is facing another technology-driven inflection point that will fundamentally reshape what it means to project power. Advancements in computing and network capabilities are empowering information’s ascent as a dominant factor in warfare. In the past, the focus of warfare was predominantly on managing the physical elements of a conflict—planes in the sky, satellites in space, troops on the ground, amphibious elements and ships at sea. In the future, success in warfare will accrue to those who shift focus from a loosely federated construct of force application systems to a highly integrated enterprise collaboratively leveraged through the broad exchange of information.

Said another way, desired effects will increasingly be attained through the interaction of multiple systems, each one sharing information and empowering one-another for a common purpose. This phenomenon is not restricted to an individual technology or system, nor is it isolated to a specific Service, domain or task. It is a concept that can loosely be envisioned as a “Combat Cloud”—an operating paradigm where the preeminent combat systems of the past become elements in a holistic enterprise where information, data management systems, and command and control practices become the core mission priorities.

Our military needs to learn better how to rapidly adapt new technology to the concepts of operation that technology enables. We need to realize and exploit the advantages of modern weapon systems and information age technology to build new concepts of operation; and we need to also realize that innovation can be applied *to* organization as well as *from* technology.

To fully capitalize on these capabilities will require a new way of designing our force. We have to think outside of the organizational constructs that history has etched into our collective psyche. Network-centric, *interdependent*, and functionally integrated operations are the keys to future military success. The future needs an agile operational framework for the integrated employment of U.S. and allied military power. It means taking the next step in shifting away from a structure of *segregated* land, air or sea warfare to *integrated* operations based on the four *functions* of ISR, strike, maneuver, and sustainment.

We need to link aerospace and information-age capabilities with sea and land-based means to create an omni-present defense complex that is self-forming, and if attacked, self-healing. This kind of a complex would be so difficult to disrupt that it would possess a deterrent effect that would be stabilizing to where ever it is employed. The central idea is cross-domain synergy. The complementary vice merely additive employment of capabilities in different domains such that each enhances the effectiveness, and compensates for the vulnerabilities, of the others. The concept is that the ubiquitous and seamless sharing of information will form the basis of the third offset strategy.

A tremendous strategic advantage will accrue to us if we exploit organizational innovation to develop an ISR–Strike–Maneuver–Sustainment Complex. This complex is not just about “things.” It is about integrating existing and future capabilities within an agile operational framework guided by human understanding. It is an intellectual construct with technological infrastructure.

6. *Process*: The nature of large institutions is inhibiting rapid, decisive action that is required for success in the information age. We need to eliminate the ponderous, and excessively regulated acquisition processes that hinder innovation, increase cost, lengthen delivery times, and inhibit effectiveness. There is perhaps not a better advocate for reversing these burdens than the current Secretary of Defense, Dr. Ash Carter, so I will not elaborate on this topic here.

However, a recent example that illustrates our ponderous process is that the decision on the long-range strike bomber (LRS–B) took way too long to make. As we move into an ever-accelerating future, the DOD has to learn how to make decisions quicker, and reverse the trend of adding expense and time by paying so much attention to ‘process’ as opposed to ‘product.’ Much of the delay on the LRS–B was driven by exquisite attention to excessive procurement rules and regulations in what is apparently greater concern with avoiding litigation than moving on with development of a critically needed capability.

The DOD has fundamental difficulty in making force structure decisions that optimize cost-effectiveness—it limits alternatives to ‘stovepipes’ restricted to similar platforms or within Service budgets rather than evaluating joint capability to achieve a particular effect across the *spectrum of possible contributors* regardless of Service of origin or what kind of system. While attempts to deal with this challenge have been instituted and exist today in the form of the Joint Requirements Oversight Council (JROC) and Joint Capabilities Integration and Development System (JCIDS) process, however, they more often than not result in “lowest common denominator” outcomes.

One way ahead is to change the primary measure of merit in program decisions from individual unit cost to value, or cost per desired effect. Cost per unit is often used as a measure of merit in making procurement decisions. A more accurate measure of merit that captures real value or capability of a particular system is cost per target engaged, or better yet, cost per desired effect. In this fashion one is led to consider all the elements required to achieve a specific goal.

We also need to think holistically about how we manage force constitution and acquisition. We simply cannot afford everything we want. We must prioritize. An option to be explored to optimally do that is to look at assessing the strategy via risk. What training, equipment, personnel expertise, etc. does it take to manifest

various strategic options and how long does it take to constitute such capacity? I think the nation needs both soldiers and submarines to execute the defense strategy. However, given our limited resources, perhaps we need to take increased risk with force structure that we can reconstitute with relative speed and ease. We can recruit and train soldiers and Marines in a matter of months. It takes years to build a submarine and some of their key personnel. Such realities ought to be considered in the Pentagon and Capitol Hill. Present budget allocations do not show this realization.

When managing forces in a period of austerity, we need to focus on the *most* complex capabilities that yield the U.S. its asymmetric advantages, while also retaining enough capacity and intellectual capability to surge the areas that allow for taking higher risk.

7. *Terminology.* We need to think beyond the constraints that traditional military culture imposes on new technology. For example, 5th generation aircraft such as the F-22 and F-35 are termed “fighters,” but technologically, they are not just “fighters”—they are F-, A-, B-, E-, EA, RC, AWACS-22s and 35s. Similarly, the new “long-range strike bomber (LRSB)” will possess capabilities much greater than the “bombers” of the past.

These new aircraft are actually more properly described as flying “sensor-shooters” that will allow us to conduct information age warfare inside contested battlespace whenever we desire—if we fully exploit their “non-traditional” capabilities to the degree that those capabilities become accepted as the new “traditional.”

Modern sensor-shooter aircraft enable the kind of interdependency that I described earlier. They are key elements in enabling U.S. and allied forces to work in an interdependent manner throughout the extended battlespace to deliver the effects or outcomes that are necessary for deterrence as well as war fighting dominance.

With the already demonstrated capability of the F-22 to provide multi-tasking capabilities, including command and control (C2) for an engaged force, the ability to provide for C2 in an extended battlespace will be enhanced with the coming of the F-35 and the LRS-B, which are not simply replacements for old aircraft, but part of the C2 dynamics crucial to an ability to fight and prevail in challenging battlespace. Whereas adversaries are working towards trying to shape Anti-Access/Area Denial (A2/AD), U.S. and coalition forces must shape their capabilities to render ineffective these A2/AD capabilities.

8. *Remotely Piloted Aircraft (Drones):* Service mission sets need to be realigned to minimize duplication of effort and allow resource concentration to secure maximum value. A prime example in this regard lies with Remotely Piloted Aircraft (RPA)—commonly known as drones. As we move into a more fiscally constrained future we need to seek ways to optimize the effectiveness of all our medium and high altitude RPAs for the benefit of our joint warfighters. Joint Publication 2.0, Intelligence Support to Joint Operations, states, “Because intelligence needs will always exceed intelligence capabilities, prioritization of efforts and ISR resource allocation are vital aspects of intelligence planning.” Most would agree that demand for RPA exceeds supply and will continue to exceed it even after the services build all their programmed drones.

This reinforces the notion that the best possible way to get ISR from medium and high altitude RPAs to our joint warriors is by allocating the capability to where it is needed most across the entire theater. It argues against assigning medium/high altitude RPAs organically to individual tactical units that preclude their benefit to the entire theater joint fight. Consider the analogy of a city made up of 50 blocks, where the mayor owns five fire trucks. If the mayor designated one truck to one block, those five fire trucks would be assigned to only five blocks. A joint approach would leave it up to the mayor—or Joint Force Commander—where to allocate the five fire trucks based on which blocks needed them most.

Today, every Air Force operationally designated medium- and high-altitude drone dedicated to CENTCOM is at the disposal of the joint task force commanders—there are no such things as Air Force targets—there are only targets that are part of the joint campaign. That is not the manner in which Army or Navy possessed medium- and high-altitude drones are employed.

At some point Med/Hi alt RPA will be allocated to theaters other than CENTCOM—perhaps in locations without a significant U.S. surface presence. Now, the Army assigns its medium altitude RPAs to individual units, which means if that unit is not in the war zone then neither are the RPAs. A joint approach applicable in any region of the world is already part of all combatant commands joint force air component operational concepts.

The designation of an Executive Agency (EA) for medium- and high-altitude RPA to oversee the standardization of all RPA that operate above a coordinating altitude;

and lead research, development, test, evaluation and procurement of these systems, will be more efficient and cost effective than individual services duplicating their efforts; is an acquisition area in which DOD could realize tremendous dollar savings; and deserves reappraisal in this era of constrained resources.

The objective of a joint approach is to get medium- and high-altitude RPA ISR distribution to be as transparent as the global positioning satellite (GPS) signal is to all the services. GPS is 100 percent owned by the Air Force; and 100 percent operated by the Air Force, and yet it is used by all the service components without any concern. We can do that with medium- and high-altitude RPA.

It is instructive to note how medium- and high-altitude RPA can be used in a joint context. Air Force component provided RPA are routinely tasked to conduct tactical operations for our forces on the ground. During an operation as part of Operation Iraqi Freedom (OIF), when a sniper was pinning down Marine ground forces in Iraq, a Predator RPA flown by Air Force personnel from Nevada, spotted and identified the insurgent. The Predator delivered video of the sniper's location directly to a Marine controller in the fight, and he used that video to direct a Navy F/A-18 into the vicinity. Then the Navy jets' laser bombs were guided to the enemy position by the Air Force Predator laser designation of the target, eliminating the sniper. This engagement took less than 2 minutes.

This is what joint warfare is all about, and a joint approach for the use of RPA is all about getting the *most* out of our ISR resources to increase this kind of capability for America's sons and daughters on the ground, at sea, and in the air, while promoting service *interdependency*, and the wisest use of American's tax dollars.

9. *Command and Control*: While the increase in information velocity is enabling dramatic increases in the effectiveness of combat operations, there is also a downside. As a result of modern telecommunications, and the ability to rapidly transmit information to, from, and between various levels of command, there are many examples of "information age" operations where tactical level execution was usurped by commanders at operational and even strategic levels. This devolution of the construct of centralized control—decentralized execution to one of centralized control—centralized execution has caused reduced effectiveness in accomplishing mission objectives.

Discipline is required to ensure "reachback" does not become "reachforward." Centralized control—centralized execution represents the failed Soviet command model that stifled initiative, induced delay, moved decision authority away from execution expertise, bred excessive caution and risk aversion. The results of such a model against a more flexible command structure were evident in 1991, when Soviet-sponsored Iraq applied—unsuccessfully—similar C2 constructs against the US-led Coalition.

Higher level of commanders, who are unwilling to delegate execution authority to the echelon with the greatest relevant situational knowledge and control, suffer from their remote perspective, create discontinuity, and hamstring the capability of commanders at the tactical level to execute a coherent, purposeful strategic plan. Growing accessibility to information requires the restructure of command and control hierarchies to facilitate rapid engagement of perishable targets and capitalize on our technological advantage. Information synthesis and execution authority must be shifted to the lowest possible levels while senior commanders and staffs must discipline themselves to stay at the appropriate level of war.

The challenges of emerging threats, information velocity, and advanced technologies demand more than a mere evolution of current C2ISR paradigms, but rather a new approach that capitalizes on the opportunities inherent in those same challenges. We cannot expect to achieve future success through incremental enhancements to current C2 structures—that method evokes an industrial-age approach to warfare that has lost its currency and much of its meaning. The requirements of information age warfare demand not "spiral development," but modular, distributed technological maximization that permits and optimizes operational agility. That kind of agility will not be achievable without dramatic changes to our C2 CONOPS; our organizational paradigms for planning, processing, and executing joint operations; our acquisition processes; and a determined effort to match the results to the three critical challenges and opportunities, while simultaneously fitting them seamlessly into the context of joint and combined operations.

10. *The Nuclear Triad*: The nuclear triad remains critical to U.S. security for five reasons: 1) It provides the needed survivable platforms of bombers, submarines and land based missiles to avoid dangerous instabilities that would come from a submarine only force that would reduce American nuclear assets to less than 10 targets; 2) It provides the needed flexibility of ICBM promptness, SLBM survivability, and bomber recall ability to hold at risk adversary targets across the nuclear and non-nuclear spectrum to give the President the necessary timely capability to stop

aggression using the least force necessary; 3) It guards against technological surprise including an adversary finding our submarines at sea or markedly improving their air defenses; 4) It preserves the land based ICBM leg of the Triad that with 400 silo based missiles presents an adversary with the impossible task of targeting the force by surprise; and 5) Provides a significant hedge that allows expansion of the force should current arms control limits be abandoned or should the geo-security environment become significantly worse.

11. *Military Advice to the President*: One of the downsides of the Goldwater Nichols Act—in terms of ensuring alternative courses of action regarding matters of war are heard by the President—is that the Act designated the Chairman of the Joint Chiefs of Staff (CJCS) as the principal military advisor to the President. The next National Security Act should specifically give the service chiefs access to the President in order to stop the filtering of advice. An anecdote from planning Operation Desert Storm illustrates the point.

In the late fall of 1990, the President became aware that there was disagreement among the Joint Chiefs of Staff about plans for the war against Iraq. In response, he called a meeting at Camp David with the Joint Chiefs and others to be held just days after his request went out. Some of the air planners spent a considerable amount of time in those few days working with the Air Force Chief of Staff so that he would be prepared to make the airpower case that the war could be executed quickly and at a very low cost. The message got through, for in early January, the President asked just the Air Force chief and the Secretary of Defense to meet him at the White House where he asked the Air Force chief if he was still as confident as he had been at Camp David a few weeks previously. Receiving an affirmative response, he proceeded with the plans that led to an ultimatum to Iraq and commencement of the air-dominant war on the 16th of January.

Although any military officer could have been involved in this type of discussion with the President, it is the Air Force professional that can give the clearest predictions as properly planned airpower operations connect directly and quickly to strategic objectives and are parallel in nature as opposed to the serial operations of land warfare where probabilities and costs are so difficult to forecast. These meetings not only illustrate the close connection of the airpower professional and the highest national objectives, but also suggest that the airpower professional has special and especially difficult roles to play in the current system of joint staff organization.

During World War II, four senior officers had generally open access to the President and they frequently presented him with ideas as divergent as Europe first versus Pacific first and with emphasis on aircraft production as opposed to tank production. The President, as commander-in-chief, then made the decisions he was charged to make, but did so having had unfiltered advice from military experts. In today's world the President rarely receives unfiltered advice; instead, the CJCS, accompanied and supervised by the Secretary of Defense, summarizes the views of the other service chiefs and then makes his own recommendations. Representation of views with which you disagree is very difficult at best. As there are very clear philosophical and operational differences (or should be) between land, sea, and air officers, the chance that the president will hear a clear exposition of the differences is small. Thus, the likelihood of an informed decision on such momentous issues as war and peace is unlikely.

This indeed was the situation in December of 1990 and had not the President learned of the significant disagreement within the JCS, decisions on the first Gulf War might have been far different. The role of the service leadership is to represent their perspectives forthrightly, and to be prepared to take the case to the highest leadership. This is not an easy charge in today's world, but it is one essential to accept. Ideally, however, there would be a serious reconsideration of our defense leadership structure and the service military leadership should be at the forefront with proposals and arguments.

12. *Joint Training*. The past nearly 25 years of continuous combat operations have made the services the most joint capable forces in the world in conducting joint operations. But as we draw down our combat operations and the services move back into garrison, The CJCS must be given the authority and the accountability for designing and directing aggressive and continuing joint training exercises and experiments. In the absence of that kind of effort, the services will retreat to their primary focus on using their limited resources to develop their service required skills and exercises and "joint" operations will become an after thought.

13. *Unit Organization, training and equipage*. One of the treasured principles of Title 10 is the service prerogative to determine their own methods for "organizing, training and equipping" their forces and then defining how they will present those forces to a combatant commander who then has the authority, by the provisions in-

herent in definition of “Operational Control” reconfigure, reassign and combine organizations to meet his war fighting needs. Clearly those authorities are exercised with great caution because the combatant commander must weigh the risks associated with altering the basic structure of a combat unit to the opportunities for success by doing so to present a more capable warfighting force.

This is often done however, in the rear area with logistics, administrative, security, communications, personnel, civil engineering and other enabling capabilities. So if the combatant commander has the authority to over rule the services in the way he may organize his gained forces, and by law, may direct the training regimens required of the services to prepare their forces to meet his unique theater needs, and then may adjust the equipage of those units, again to meet his needs, and the services must comply, one must ask why are the services so much different in the way they describe themselves in the “Force For” documents?

Further why will one service offer capabilities down to and including only a single person and yet other services define a capability type and then tailor it, to include all of its organic enablers, as the minimum deployable package, thereby preventing its enablers to be used without deploying the entire package. The opportunity for efficiencies could be enormous if the services were made to become much more standard in the way they construct their tables of allowance and table of equipage.

14. *The Reserve Components*: The value of National Guard and Reserve forces are critical if we are to craft a defense strategy that yields the nation strategic agility. As we seek to balance capability, capacity, and readiness, the reserve components’ ability to surge in an affordable fashion, makes them incredibly important assets. They need to be at the center of options for managing the military in a time of austerity. It is important to recognize that Guard and Reserve forces are not just a force in reserve, or an force multiplier with a personnel cost savings, but when the reserve forces are used, they bring the rest of the nation into the decision making process.

15. *Sequestration*. Because there is no public awareness of what is happening relative to the reduction in resources allocated to Defense, the hollow force that sequestration is imposing today will not be readily apparent until those forces are required. What is so devastating about sequestration—and not obvious in a 20 second sound bite—is that it is now affecting U.S. capability to provide rapid response sufficient to meet the demands of our security strategy.

Said another way, we have a growing strategy-resource mismatch, and that dichotomy between what we say we want to accomplish, and what we can actually accomplish is growing. Without action to eliminate sequestration that mismatch will only get worse.

I believe it is vitally important to remember that the first responsibility of the United States government is the security of the American people. As the preamble of our Constitution states, the federal government was established to first, “provide for the common defense” and subsequently, “promote the general welfare.” Recent decisions have confused this prioritization, with sequestration taxing defense spending at a rate greater than twice its percentage of the total federal budget. It’s time to return to first principles and get our priorities straight.

CONCLUSION

The challenge before us is to transform *today* to dominate an operational environment that has yet to evolve, and to counter adversaries who *have yet to materialize*. The 9/11 commission report’s now famous summary that the cause of that disaster was a “failure of imagination” cannot be allowed to be repeated across our security establishment.

Another roles and missions commission will not be easy and is sure to upset many apple carts, but if we do not do it, our adversaries will capitalize on the ponderous, bloated, and inefficient structures, processes, and procedures that are currently in place and based on the conditions that existed immediately after WWII—we have too much at risk to let that happen again. The Islamic State does not have a JCIDS process.

I finish with a plea for new thinking. In the face of disruptive innovation and cultural change, the military can maintain the status quo, or it can embrace and exploit change. I suggest that the latter is preferred. Our services need to learn better how to rapidly adapt new technology to the innovative concepts of operation that technology enables. Our intelligence community, military, and other security institutions will suffer if their internal organizations fail to adapt to new, disruptive innovations and concepts of operation.

One of our most significant challenges is the structural and cultural barriers that inhibit the diffusion of new ideas that challenge the status quo. That is the chal-

lenge for not just our military, but for all the other pillars of our national security architecture. We must challenge our institutions to have an appetite for innovation—and a culture that rewards innovative solutions.

Chairman MCCAIN. Mr. McGrath?

STATEMENT OF BRYAN McGRATH, DEPUTY DIRECTOR, THE CENTER FOR AMERICAN SEAPOWER, THE HUDSON INSTITUTE, WASHINGTON, DC

Mr. McGRATH. Good morning, Mr. Chairman, Ranking Member Reed, and members of the committee. Thank you for this great civic honor today to be before you and to sit alongside these experienced individuals.

The roles and missions defined at Key West were only part of the story of how national and military strategy were arranged during the Cold War to protect and sustain America's interests. Of equal and perhaps greater importance, in my view, was the strategic prioritization of those roles and missions, to the point where the Department of the Air Force was receiving nearly 50 percent of the defense budget late in the Eisenhower Administration.

I am here today as a sea power advocate, and any reading of my work leads logically to that conclusion. But I am also a land power advocate, and I am also air power advocate. I am an advocate of preponderant American military power capable of deterring, fighting, and winning conflicts thousands of miles from our own shores, and I am concerned that the current force on its apparent trajectory does not maintain this preponderance.

If we continue down the path we are on, one in which less and less is spent on defense as a function of our economy, as a function of total government spending, and as a function of the capability and capacity necessary, our preponderance will decline, and it will result in a force that looks proportionally much like this one, only capable of doing fewer things in fewer places to a lesser degree. I consider this path dangerous and risky, but unfortunately it is perhaps the likeliest path.

There are two other general paths we could take. We could do what I believe is the most prudent thing to do, and this is to increase defense spending across the board on virtually on all components, capabilities, and capacities of the current force. Unlike the flag and general officers present at Key West, we have some idea of what the table stakes of great power competition are.

Some consider this path to be unaffordable. I do not believe this is true. We remain a very prosperous country. The fiscal restraints imposed on defense spending are self-imposed and represent choices among competing priorities, but they are choices nevertheless. Choosing to de-weight military strength at the end of the Cold War was wise, but it is increasingly unwise in the emerging great power contention environment. This path would obviously cost more than we spend today, but it would involve relatively little in changing the strategic prioritization of roles and missions.

The second path we could take is one in which we spend relatively similar to what we spend today and inflate it appropriately, but where roles and missions—certain roles and missions are prioritized in a return to the clarity of President Eisenhower and his assumption of risk through the making of tough strategic

choices. Were we to do so, I believe that American sea power would merit greater emphasis, specifically because in its modern instantiation, it merges the sea power of the world's most powerful Navy, with the air power of the world's most lethal and mobile tactical air arm, and the land power of the world's most feared middle-weight land force, the U.S. Marine Corps. I see this force and a robust mix of Special Forces as capable of needing a substantial number assurance, presence, crisis response, and conventional deterrence needs of any appropriate national strategy.

American sea power makes disproportionate contributions to important national security objectives. Sea power enables the homeland defense away game. Sea power bolsters critical security balances. Sea power provides for effective conventional deterrence. Sea power enables diplomacy and development. Sea power provides for modulated military responses and options for escalation and de-escalation as the case may require. Sea power shows the compassion and spirit of the American people on a global basis on disaster strikes.

Of course, sea power cannot do it all. Campaign-level air and land power would continue to be what they have been for decades, war waging and war winning forces. But they would be overwhelmingly based in the United States, and they would be maintained in a somewhat reduced status.

My written statement contains more detail with regard to the major movements of this future joint force, one that recognizes the virtues of friendly border neighbors, the geography of being thousands of miles from many of our security interests, and the reality of man's overwhelming proclivity to live and work near the sea. I look forward to laying out some of that detail in the questions period.

I want to stress once again that this sea power-centric approach is not my first choice largely because I believe it assumes too much risk, but less risk than staying on the path we are on. I would much rather resource a larger, more powerful version of the current force, one I believe appropriate to the challenges ahead. Thank you very much.

[The prepared statement of Mr. McGrath follows:]

PREPARED STATEMENT BY BRYAN McGRATH

All testimony herein represents the personal views of Bryan McGrath

Thank you Chairman McCain and Ranking Member Reed, and all the members of the Senate Armed Services Committee for the opportunity to testify and to submit this written statement for the record.

I am a defense consultant by trade, specializing in naval strategy. In early 2014, I joined with Seth Cropsey of the Hudson Institute to found a think tank devoted to Seapower, known as the Hudson Center for American Seapower. All of my adult life has been spent either in the Navy or working on matters of naval operations and strategy.

On active duty, I commanded a destroyer, and I was the team leader and primary author of the 2007 USN/USMC/USCG maritime strategy known as "A Cooperative Strategy for 21st Century Seapower. Since leaving active duty in 2008, I have written and spoken widely about preponderant American Seapower as the element of our military power most that most effectively and efficiently promotes and sustains America's prosperity, security, and role as a world leader.

It is an honor to appear before you and in the company of my esteemed colleagues. The nature of this hearing—an inquiry into the continuing relevance of the roles and missions compromise reached at Key West in the late 1940's—provides the

opportunity for a more generalized discussion of the relative merits of Seapower, land power, and air power in the national security strategy of the United States of America. While the Key West Agreement went a long way toward containing the inter-service rivalry that characterized the immediate post-war defense bureaucracy, it took the Goldwater-Nichols Act of 1986 to finish off the Services as effective advocates for their own particular brand of military power, while creating an atmosphere of “go along to get along” in which consensus is viewed as the highest bureaucratic attribute. In fact, the interaction of Key West and modern Jointness is primarily responsible for the strategic sclerosis that predestines this nation—in these austere times—to a military that is increasingly misaligned with our interests and the strategic environment.

The primary casualty of seventy years of Key West and Goldwater-Nichols has been the loss of forceful, uniformed advocacy for the particular operational and strategic benefits of generally Service-specific military modalities. The contributions of Seapower, land power, and air power in anything more than the tactical and theater operational sense has in no small measure been sacrificed on an altar of “Jointness” in which the contributions of all Services must blend harmoniously, and in which unseemly advocacy—and its likely threat to Jointness—is a guaranteed career shortener.

That is why this hearing and this Committee’s willingness to take hard look at where we are with Goldwater-Nichols—nearly thirty years after its passage—is so important.

Our fighting force has become the envy of the world, and Jointness has a lot to do with that. Our ability to synthesize and synchronize the fires and effects of the four armed services in the space and time of our choosing is unmatched. Additionally, Jointness has the potential to create efficiencies in acquisition, so long as requirements and performance specifications are not unduly compromised in order to attain the “one size fits all” (or most) approach.

Where Jointness has ill-served this country is at the level of strategy-making, both in terms of military strategy and the military’s contribution to the making of Grand Strategy.

JOINTNESS, STRATEGY, AND RESOURCES

Eight years ago while on active duty, I was the team lead and primary author of a document called “A Cooperative Strategy for 21st Century Seapower”, which was a tri-service document (Navy, USMC, Coast Guard) that boldly proclaimed itself a “maritime strategy”, a term that had not been used to describe any one of a half-dozen Navy and Department of the Navy strategic documents in the previous two decades—since the seminal “Maritime Strategy” of the Reagan era.

In point of fact, Goldwater-Nichols and the rise of the Combatant Commanders created a sense among many in the national security field that strategy was no longer the purview of the Services, and that to the extent strategy was to be made, it would be done at the Combatant Commands and the Joint Staff. This view was summed up in a conversation I had in early autumn of 2007, just before the new maritime strategy was to debut. In it, my interlocutor, a friend who is now occupying a position of great responsibility in the Department of Defense, told me that “Services make budgets, not strategy. You guys (the Navy) have no business in writing strategy.” He was not alone in this assessment.

We forged ahead with the Maritime Strategy in spite of those who felt strongly that we had no mandate to do so, and the result was generally well-received. In dissent, one prominent navalist opined that it (the strategy) was not Joint enough, and that we ignored the important contributions of the other Services. Keep in mind, this was a Seapower strategy, designed in no small measure to explain modern American Seapower and its unique contributions to national security and prosperity.

The point of this discourse is to raise the issue that Jointness has risen to the level of attribute above all other attributes—not only in how the force fights, but in how it makes strategy. Military strategy and its contribution to grand strategy take as a starting position, a Joint force that is constituted from the pieces and parts and roles and missions largely enshrined at Key West. Key West essentially locked the contributions in place, with Goldwater-Nichols then enforcing the notion that while the individual service modalities were of course important, it was ONLY in their blending—in largely consistent shares—that goodness could be had.

We can see evidence of this in how base budgets have been allocated in the post-Vietnam era. We often hear of a “ $\frac{1}{3}$, $\frac{1}{3}$, $\frac{1}{3}$ ” split, but this is not correct. In fact, the Services only actually split 80% of the budget, as 20% is consumed by DoD activities. That 80% however, has been relatively consistently allocated over the years, with the Department of the Navy generally receiving the largest share (it contains

two armed services), the Department of the Air Force next, and the Department of the Army the least. What is interesting though, is that the proportions remain relatively equal irrespective of the national military strategy. Put another way, we have had numerous defense-wide reviews since Goldwater-Nichols, to include the Base Force, the Bottom-Up Review, several National Security Strategies, several Quadrennial Defense Reviews, and the 2012 Defense Strategic Guidance. Although these reviews addressed markedly different security environments, the proportions allotted to the military departments remained generally stable. Supplemental funding is not included in this comparison.

How can this be? How can base budgets remain relatively stable across a number of dramatically different security environments, including America as “hyper-power”, the War on Terror, and the Rebalance to the Pacific? The answer is that Key West and Goldwater-Nichols have created an atmosphere in which comity and consensus are the coin of the realm, and that consensus is “purchased” with defense spending that ensures each of the Services generally get much of what they want and rarely get all of it.

REDUNDANCY, INEFFICIENCY, AND RISK

The roles and missions division that emerged from Key West enshrined redundancy and inefficiency, but in the process, these overages helped buy down risk, especially as the Cold War progressed. While existential threats lurked, a certain amount of inefficiency and redundancy was worthwhile, and strategically unobjectionable. It is important to remember that the reason Secretary Forrestal convened the Chiefs at Key West was in order to gain efficiency, to economize. Although he was relatively unsuccessful in this regard, Key West created a roles and missions architecture that could be relatively easily enlarged and diminished in response to the perceived level of threat from the Soviet Union. While Eisenhower eventually came to rely more heavily on nuclear weapons rather than conventional (with the USAF receiving nearly $\frac{1}{3}$ the defense budget late in his second term), he did little to alter the roles and missions of the Services. Additionally, he had the luxury of spending nearly 10% of GDP on defense, nearly triple the proportion we allocate today.

It cannot be stressed enough that Key West was convened largely to reach efficiencies and to economize, and not as a means to achieve strategic coherence or wholeness. As we face what appears to be a new era of great power contention, I am concerned that as we look at roles and missions, we do so not as an exercise in efficiency, but in the quest for the allocation of resources and forces best suited to deter and if necessary, win great power war.

Put another way, the roles and missions debate is potentially less interesting than a debate about how those roles and missions are prioritized, and that prioritization discussion necessarily involves the concept of risk. That said, it seems strategically unwise to continue to spend a declining share of our national wealth on defense while maintaining the current departmental allocation consistency. We are creating a Joint force that is simply a smaller version of its predecessors, capable of doing fewer things, to a lesser extent, in fewer places, without any diminishing of the responsibilities assigned to it. We can go in one of three directions. We can continue to go in the direction that we are, which will ill-position us to protect and sustain our interests in an era of renewed great power contention. This is the most risky path but also the most likely. We can dramatically increase defense spending across the board, and increase the size and readiness of the Armed Services even as we modernize them, which is the least risky path, but in the absence of a triggering event or a political sea-change, highly unlikely. Or we can continue with the same general total outlay of defense spending but favor certain military roles over others. This is option is less risky than the path we are on, but it is potentially as politically unlikely as the broad based increase in defense spending.

I wish to be on record as supporting the second option, a broad increase in military spending across the board. I believe this nation is dangerously ill-prepared to move forward in an era of great power contention, and I believe that the trajectory we are on will only decrease our fitness for these challenges.

IF WE PRIORITIZE, PRIORITIZE SEAPOWERS

Given that the political conditions for a broad increase in defense spending are unlikely to be achieved, and given that simply shrinking the current force will only increase the mismatch between our force and its likely operating environment, we must then consider placing bets on certain aspects of our military power; relying on them to a greater extent while we de-weight other capabilities, not because they are unimportant, but because they are less important to the missions of conventional

deterrence and/or because such capabilities can be more rapidly reconstituted than other more capital intensive aspects of the force.

In my view, if a well-conceived strategic approach were taken that 1) weighted deterring and winning great power war higher than any other military endeavor and 2) allowed no sacred cows, modern American Seapower would be prioritized over land power and aerospace power. This is not to say that America does not need land and aerospace power; we certainly do. But the Department of the Navy is essentially a microcosm of the Joint Force as presently constituted. It clearly has the overwhelming amount of Seapower, although the Army has a large number of watercraft. It has the world's most mobile air component, though the Air Force clearly contains campaign level, war-winning air power. It has the world's most feared middleweight land force, delivered from the sea with mobility and flexibility, although the Army is clearly our most powerful land force. In other words, I am an advocate for land power and air power—and I believe they can most efficiently be delivered from the sea in order to protect and sustain our interests around the world. Additionally, if properly resourced, the land and air power contained within the units of issue of modern naval power—the Carrier Strike Group and the Amphibious Ready Group, would be sufficient for much of the day to day work of military diplomacy, assurance, presence and deterrence around the world, and would be the force upon which the war-winning power of the Army and the Air Force would marshal if a conflict outstripped available naval power.

However, the Navy and Marine Corps as presently constituted would be ill-suited to this work. We are sized for peacetime forward presence of credible combat power in two theaters at a time—currently the Far East and the Arabian Gulf/Indian Ocean region. Our 271 ship, 186K Marine force is insufficient to service these forward deployed combat hubs, and worse, our national interests demand a return in force to the Mediterranean—where turmoil and unrest throughout North Africa and the Levant, threats to our ally Israel, and a new Russian “keep out” zone developing in the Eastern Mediterranean require United States answers.

A Navy and Marine Corps capable of providing continuous and indefinite presence, assurance, and deterrence in three theaters simultaneously would necessarily be larger than the current force. It would be built around 15 Expeditionary Strike Forces each of which is comprised of a large, nuclear powered aircraft carrier, an amphibious assault ship, 8–10 surface combatants, two additional amphibious ships, two loosely attached attack submarines networked into an undersea constellation of unmanned, unattended, and or fixed surveillance, sensors, and weapons, shore-based maritime patrol aircraft and integrated maritime intelligence, surveillance, and reconnaissance unmanned platforms. This force would take decades to achieve, and would likely be in the neighborhood of 450 ships and 220,000 Marines.

In fact, it is the time associated with achieving this force that argues strongly for moving quickly and investing steadily in peacetime. The framers of our Constitution faced a similar dilemma to what we face today. In relative terms, it was then—and remains today—less difficult (and expensive) to “... raise and support Armies...”, than it is to “... provide and maintain a Navy” (U.S. Constitution Article I Section 8). Recently, the Army Chief of Staff gave a speech in which he attempted to dispel a number of “myths” about warfare. One of these myths was that “armies are easy to regenerate”. This is of course, a straw man, as no thoughtful analyst considers it “easy” to regenerate an Army. The point though—easy that the framers foresaw in the language of the Constitution—is not that it is easy to raise an army, but that it is EASIER than raising a Navy. In this regard, the Air Force is much more like the Navy than the Army. In simple terms, building ships takes a long time, and in our present industrial base—where there are few places that proper warships can be built—there is little or no surge capacity to “ramp up” in an emergency.

GEOGRAPHY IS NOT DESTINY, BUT IT MATTERS

Another reason to privilege the land power and air power resident in the sea power of the Department of the Navy is the great gift of geography that we enjoy. Our border nations are not military threats to our security. As the world's most powerful economic nation, our interests are global, and protecting and sustaining them requires the projection of power and influence across thousands of miles. This extended quotation from Congressional Research Service analyst Ron O'Rourke article in the Naval Institute's Proceedings (Jan 2012) says it best:

“Most of the world's people, resources, and economic activity are not in the Western Hemisphere, but in the other hemisphere, particularly Eurasia. Consequently, a key element of United States national strategy, going back many decades, has been to prevent the emergence of a regional hegemon in one part of Eurasia or another, because such a hegemon could deny the United States access to some of the

Eastern Hemisphere's resources and economic activity. Preventing this is a major reason why the U.S. military is structured with force elements—including significant naval forces, long-range bombers, and long-range airlift—that enable it to cross broad expanses of ocean and air space and then conduct sustained, large-scale military operations upon arrival. The United States is the only country with a military designed to do this. The other countries in the Western Hemisphere don't attempt it because they can't afford it, and because the United States is, in effect, doing it for them. Countries of the Eastern Hemisphere don't do it for the very basic reason that they're already in that hemisphere, where the action is. Consequently, they instead spend their defense money on forces for influencing events in their own neighborhood."

Given our propitious geography and our friendly neighbors, there is a logical argument to be made to keep the land and airpower of the Department of the Navy in highest readiness with global capacity, while keeping the war-winning combat power of the U.S. Army's land power and the U.S. Air Force's air power largely—but not exclusively—garrisoned in the United States in smaller numbers than we have been used to. The nation would necessarily have to think through how most effectively to ramp up these two campaign level Services, and a more fluid mix of active, reserve and National Guard forces would likely result. Those elements of the Army and Air Force that support the day to day operations of the Navy and Marine Corps would also be kept in highest readiness, as would those portions of the Army that most resemble the capital intensive nature of the Navy and Air Force—specifically Army Aviation and Air and Missile Defense.

The greatest risk of this Seapower-centric approach is that we simply could not generate enough "war winning" combat power fast enough to prevent a "fait accompli", especially one not proximate to the sea (for instance, Central Europe). Mitigating this threat would necessarily involve a greater reliance on the land forces of friends and allies. The risk could not however, be eliminated.

CONCLUSION

The most likely direction this nation will head (and the most dangerous) is to continue on the path it is on, a path to a smaller force that is increasingly inappropriate to the emerging security environment. This is because the forces of inertia are strong, both in the Pentagon and here on Capitol Hill. Additional money for defense seems unlikely, and just as unlikely would be a strategic re-prioritization.

The best option then would be to embark on a broad based defense increase, one that would grow the current force as allocated both in size and in capability. This I believe to be the soundest, most strategically wise course to take as China and Russia begin to assume larger roles in the world, and while spending more on defense would be a difficult political pull, it is probably more likely to happen than a strategic allocation of resources that challenges current paradigms and rice bowls.

Should the nation move in the direction of a dialogue that would be less risky than the current path and less expensive than the broad based defense build-up, then shifting resources and priorities to the Department of the Navy to enable it to provide the global, day-to-day management force while the other Military Departments concentrate on support to those routine and crisis response operations and most importantly, the provision of war-winning, heavy, campaign level land and air power, is advised.

Chairman McCAIN. Thank you. Dr. O'Hanlon? I might mention for the record the excellent new book called *The Future of Land Warfare*. Congratulations. Welcome.

STATEMENT OF MICHAEL E. O'HANLON, PH.D., CO-DIRECTOR, THE CENTER FOR 21ST CENTURY SECURITY AND INTEL- LIGENCE, THE BROOKINGS INSTITUTION, WASHINGTON, DC

DR. O'HANLON. Thank you, Senator. Very kind of you. I appreciate the honor to be here today as well.

I really just want to make two main points in the spirit of the roles and missions conversation that we are having, and the first is to say that while many are looking to the Army as a preferred bill payer for other parts of the military, I think we have gone about far enough with this way of thinking. So I am not here to advocate for a larger Army, but I am very concerned about some

of the ideas now being considered and presented, whether it is the strategic capabilities and management review that we heard about in 2013, whether it is some ideas that are out there now, for example, from former Chief of Naval Operations [CNO] Admiral Gary Roughead to cut the Army to below 300,000 active duty troops.

Some of these ideas I believe would go too far. This would require a longer conversation, of course, about just what size Army is optimal, but I would simply make a historical point before moving on to my specific recommendations on roles on missions. The historical point, we always tend to assume that we have figured out how to avoid big ground wars, and for the last century we have had this tendency. When we have come out of a big conflict or a big crisis or competition, we have made that assumption, and we have been proven wrong.

And so, I would simply observe, for example, up until World War I, we had a tiny Army, 17th or 18th in the world even as we were becoming the world's number one economic power. The argument was, well, we got away from all those Old World conflicts. Let us stay over here. We are safe. We do not need to worry about playing that Old World game of interstate war.

And we all know we had to build up for World War I, but you would have thought that might have been the lesson, but after World War I we cut back to being the 19th largest Army in the world in the mid-1930s, and we all know what happened after that. You would have thought World War II would have taught us the lesson, and, of course, we did have to downsize from eight million soldiers. But nonetheless we downsized so much that in five short years, as this committee well knows, Task Force Smith was incapable of responding to North Korean aggression just five years later, just five years after we had had the world's most powerful military machine ever contemplated or invented on the face of the earth.

And then, of course, we had problems in the Cold War period. We tried to fight the Vietnam War with tactics and weapons that I think were inappropriate to that fight. Then the lesson of Vietnam was no more Vietnams—excuse me. No more Vietnams. Let us not even have a military that can do that. Let us get the Army out of the counterinsurgency and stabilization business. Lo and behold, that seemed okay for Operation Desert Storm, but by the time we got to the wars of this century, we were not ready. It took us three or four or five years to really get the right tactics, and leaders, and concepts to be effective.

And now, we risk doing it again. I do not think that the damage so far has been all that great, but I think we are starting to say things and think things that are worrisome. In addition to the ideas I just mentioned a few minutes ago about proposals for even deeper cuts in the Army, we now have the Quadrennial Defense Review [QDR] as a matter of official U.S. strategy saying we will no longer size the armed forces for prolonged large-scale stabilization missions. I just think this is ahistorical, unrealistic, and incorrect.

President Barack Obama has every right and reason to try to stay out of big new operations in any specific place, like a Syria or where have you. But nonetheless, the idea that we can simply assume away these kinds of missions forever, which is essentially

what the QDR says if you take it literally, I think is a mistake. So I would simply counsel that we have gone far enough in our thinking about downsizing the Army and putting it into a very specific limited set of missions.

General David Petraeus was kind enough to launch my book with me last week, and he repeated the idea that I know he, and Senator Reed, and Senator McCain, and many others on this committee have discussed and heard about before. Our Army needs to remain an Army of pentathletes, people and forces that can do many different things and at scale, not in a boutique way, not in an overly limited way.

One last set of thoughts.

Chairman MCCAIN. Let me—let me ask, in this scenario, what role and capacity is the Marine Corps?

DR. O'HANLON. Well, my thinking is the Marine Corps is essentially right sized. The Marine Corps has a pretty good floor under its force structure. It is known for being very effective on Capitol Hill. It is known for being very effective with the American people. I think the Marine Corps in a sense I am taking as a given in the sense that it may fluctuate a little. But I think the Army is more likely to be the target for big new changes, and that is why I focused my attention there.

Just a couple—because the committee has asked us to give specific recommendations, and like my fellow panelists I would like to just give a couple and then finish, because I am not trying to say that every Army program or every military program is just right today. I do think we need a somewhat larger defense budget increase than President Obama is calling for or that the recent budget compromise is calling for. But I think, you know, we need to make some reforms, as you said, Senator, and let me just list a couple.

First of all, the Army has already managed to kill off most of its own weapons programs. It may not need a lot more help from the committee or anyone else, and I say that somewhat facetiously, but it is also somewhat true. In the last 20 years, the Sergeant York, the armored gun system, the crusader, the Comanche, the future combat system, all of these have met their demise. The Army has had some troubles with modernization. It needs to go back to the drawing board. It is trying to do that, I recognize, but the Army is already thinking hard about how to scale back some of its modernization programs. So I will leave that as it is.

On the Air Force, and Navy, and Marine Corps side, I think the F-35 Program is a good program, but I think it is oversized. In an era when we are doing so much more with drones, with space, with existing fourth generation systems like the A-10 and the F-16, I think that we do not need 2,450 F-35s. I would encourage the other services to look at that number.

I would also suggest that when the United States Navy under a man I respect greatly, former CNO Admiral Jonathan Greenert, says that nuclear modernization is its top priority, I would suggest the Navy ought to reconsider. We do need safe and reliable nuclear deterrent capabilities, but I do not think the Navy should have nuclear deterrence as its top priority. The world has changed. The details of our nuclear force capabilities to me are not as quite as im-

portant as the Navy is perhaps estimating. I want to see a little greater relative focus on conventional forces.

And I think finally on the size of the Navy, I would submit that perhaps we can scale back the size of the carrier fleet by one or two if we are willing to put a little bit more land-based tactical air power in the Persian Gulf. We have a lot of our allies now equally concerned about the rise of Iran. I think the idea of going back to some more permanent land basing for tactical fighter jets may enable us to reduce the strains and demands on the carrier force in the Persian Gulf. Thank you.

[The prepared statement of Dr. O’Hanlon follows:]

PREPARED STATEMENT BY DR. MICHAEL O’HANLON

THE FUTURE OF LAND WARFARE

By Michael O’Hanlon (author of the new book, *The Future of Land Warfare*)

Greetings, Mr. Chairman, Mr. Ranking Member, and other Senators on the Committee. It is an honor to testify today as we stretch our imaginations to postulate what the future of warfare may be like—and thus what demands may be placed on different elements of America’s military. I am here to argue in favor of the rough balance of resources that has characterized the U.S. Armed Forces in the past. My purpose is not to argue that landpower should be the preeminent military tool of the United States. Rather, I would like to challenge those who claim that its time has come and gone—and that the U.S. Army’s size and budget should decline accordingly. I strongly disagree. An Army of some million soldiers, active and Reserve and National Guard, remains roughly the right size for the United States going forward—and in fact, that is a rather small and economical force relative to the scale of challenges and threats that I foresee. Moreover, that Army should continue to prepare for a wide range of possible scenarios, challenges, and missions. We cannot opt out of certain categories of warfare based on some crystal ball we purport to possess; the United States has always been wrong when it tried to do so in the past. To paraphrase the old Trotskyism, we may not think we have an interest in large, messy, dangerous ground operations in the future—but they may have an interest in us.

MILITARY REVOLUTIONS AND THE ALLURE OF TECHNOLOGY

In recent years, Americans have understandably gotten tired of land warfare. Fatigued by Iraq and Afghanistan, rightly impressed by special forces, transfixed by the arrival of new technologies such as drones, and increasingly preoccupied with a rising China and its military progress in domains ranging from space to missile forces to maritime operations, the American strategic community has largely turned away from thinking about ground combat.¹ This is actually nothing new. Something similar happened after the world wars, Korean and Vietnam wars, and Operation Desert Storm in 1991 as well. That last time, debate shifted to a supposed revolution in military affairs. Many called for a major transformation in American military forces to respond to that presumed revolution, until the 9/11 attacks returned military analysis back to more practical and immediate issues. But now the strategic debate seems to be picking up about where it had left off at the turn of the century—except that in the intervening 15 years, remarkable progress in technologies such as unmanned aerial systems have provided even more grist for those favoring a radical transition in how militaries prepare for and fight wars.

Much of this debate is welcome. Even if futurists understandably tend to get more wrong than right in their specific recommendations, a debate in which they challenge existing Pentagon rice bowls is preferable to complacency. As long as the burden of proof is on those who would dismantle proven concepts and capabilities when proposing a whole new approach to military operations and warfare, a world of too many ideas is preferable to a staid, unimaginative one of too few. The history of

¹For good treatments of the capacities of special forces, that at the same time do not overstate their realistic roles or falsely imply the obsolescence of major combat units, see Phillip Lohaus, *A Precarious Balance: Preserving the Right Mix of Conventional and Special Operations Forces* (Washington, D.C.: American Enterprise Institute, 2015); and Brian S. Petit, *Going Big by Getting Small: The Application of Operational Art by Special Operations in Phase Zero* (Denver, Colorado: Outskirts Press, 2013).

military revolutions suggests that established superpowers are more likely to be caught unprepared for, even unaware of, new ways of warfare than to change their own armed forces too much or too fast.

That said, pushback against transformative ideas will often be necessary. We have seen many unrealistic military ideas proposed for the post-World War II American armed forces, from the Pentomic division of the 1950s that relied on nuclear weapons for indirect fire, to the flawed counterinsurgency strategies of the 1960s, to the surreal nuclear counterforce strategies from Curtis Lemay onward in the Cold War, to the dreamy Strategic Defense Initiative goals of the 1980s, to the proposals for “rods from God” and other unrealistic technologies in the revolution in military affairs debate of the 1990s. As such, wariness about new ideas is in order. Even in a great nation like the United States, groupthink can happen, and bad ideas can gain a following they do not deserve. Also, the United States has a history of cutting its ground forces too far and too fast after major challenges or conflicts have passed. For example, after World War I, we downsized until we had only the 17th largest army in the world as World War II approached; after the latter conflict, we cut the Army so fast that Task Force Smith was routed by the North Koreans just five short years later, in 1950.

One hears much discussion again today about the supposed obsolescence of large-scale ground combat. Official American policy now leans in that direction too, as codified in the 2012 Defense Strategic Guidance and 2014 Quadrennial Defense Review, largely a result of frustrations with the wars in Iraq and Afghanistan. Accordingly, the 2012 Defense Strategic Guidance, released under the signature of then-Secretary of Defense Leon Panetta with a preface signed by President Obama, states flatly that “*U.S. forces will no longer be sized to conduct large-scale, prolonged stability operations.*”² Later that same year, the Pentagon carried out a so-called Strategic Capabilities and Management Review that examined the option of reducing the Army to just 380,000 active-duty soldiers.³ Subsequently, the Ryan-Murray budget compromise of late 2013 and other considerations led to a less stark goal of 440,000 to 450,000 active-duty soldiers. But the 2014 Quadrennial Defense Review again dismissed the plausibility of large-scale stabilization missions, albeit somewhat more gently, stating that “Although our forces will no longer be sized to conduct large-scale prolonged stability operations, we will preserve the experience gained during the past ten years of counterinsurgency and stability operations in Iraq and Afghanistan.”⁴ The emphasis changed somewhat, but the fundamental point was the same. Ground warfare, or at least certain forms of it, was not only to be avoided when possible—certainly, that is sound advice—but not even truly prepared for. That may be less sound advice.

There are lots of reasons to believe that, whether we like it or not, ground warfare does have a future, and a very significant one at that. Nearly three-fourths of the world’s full-time military personnel, almost 15 million out of some 20 million, are in their nations’ respective armies.⁵ Most wars today are civil wars, fought within states by ground forces. Interstate wars are rare, but when they do happen, they generally involve neighboring states and generally involve a heavy concentration of ground combat. America may be far away from most potential conflict zones, putting a greater premium on U.S. long-range strike including air and naval forces than is the case for most countries. Yet the United States works with more than 60 allies and security partners that tend to emphasize their own armies in force planning, and tend to worry about land warfare scenarios within or just beyond their own borders. Iraq and Afghanistan revealed the limitations of standoff warfare, and the problems that can ensue when the nation places severe constraints on its use of ground power (especially in the first few years of each conflict).

Here is another problem with the trend of our current national thinking: since the Cold War ended, the U.S. Army like much of the American armed forces has been built around the prospect of fighting up to two major regional wars at a time. That thinking has evolved—especially in the years when the United States was actually fighting two wars at once, in Iraq and Afghanistan (and in the process eliminating one of the threats that two-war scenarios had been built around, the govern-

²Department of Defense, “Sustaining U.S. Global Leadership: Priorities for 21st Century Defense,” Washington, D.C., January 2012, available at [http://www.defense.gov/news/Defense Strategic Guidance.pdf](http://www.defense.gov/news/Defense%20Strategic%20Guidance.pdf).

³Michael E. O’Hanlon, “Sizing U.S. Ground Forces: From ‘2 Wars’ to ‘1 War Plus 2 Missions,’” *Washington Quarterly*, vol. 37, no. 1 (Spring 2014), pp. 151–164, available at https://twq.elliott.gwu.edu/sites/twq.elliott.gwu.edu/files/downloads/O’Hanlon_PDF.pdf.

⁴Department of Defense, *Quadrennial Defense Review* (Washington, D.C.: March 2014), p. vii, available at [defense.gov/pubs/2014 Quadrennial Defense Review.pdf](http://defense.gov/pubs/2014%20Quadrennial%20Defense%20Review.pdf).

⁵International Institute for Strategic Studies, *The Military Balance 2014* (Oxfordshire, England, 2014).

ment of Saddam Hussein). Former Secretary of Defense Donald Rumsfeld's 2006 Quadrennial Defense Review began to shift the paradigm somewhat. The Pentagon's 2012 Defense Strategic Guidance and 2014 Quadrennial Defense Review moved further away from a two-war construct without jettisoning it altogether. Now, in the second of the two overlapping wars, it is deemed adequate to "inflict unacceptable costs" on an adversary.⁶ But the vagueness of that latter standard, deterrence by the threat of punishment, and changes in the international security order, suggest that perhaps it is time to think afresh about the future of the U.S. Army and the other services. Planning for regional conflict will have to be a component of future force sizing, but with less specificity about likely foes than in the past, and with a fuller range of considerations to complement the contingency analysis.

Some would counsel against preparedness for plausible military missions on the grounds that by being prepared, we might stray into conflicts that would have been best avoided. The 2003 Iraq War may be a recent case in point—a "war of choice," in Richard Haass's pithy depiction, that would surely not have been undertaken without a ready and fairly large standing military.⁷ But for every such case in U.S. history, there are probably several—as with the world wars, and Korean War—in which lack of preparedness proved an even greater problem. Moreover, in Iraq and Afghanistan, improper preparation for a certain type of fighting arguably made the initial years in both these wars far less successful than they might have been. Nor is it so clear that the United States is really spoiling for military action abroad. Americans may not be as restrained in the use of force as they often like believe about themselves. Yet at the same time, casual aversion—and, more recently, a national souring about the kind of ground operations conducted in Iraq and Afghanistan—impose important constraints on action as well. Deliberately staying militarily unprepared for plausible missions, as a way of avoiding unsuccessful military operations abroad, thus seems an unwise and highly risky strategy for the nation.

PLAUSIBLE SCENARIOS THAT COULD THREATEN CORE AMERICAN INTERESTS

In the interest of brevity, I will conclude this written testimony with a list of the ten scenarios that I develop and analyze in my new book. None except perhaps the Syria contingency is individually likely. But all bear watching. Each could seriously threaten major American national security interests including even the basic safety of the homeland if it took place. As such, while we might try (and arguably should try) to stay out of most of them even if they begin to unfold, we might also find that there is ultimately little choice but to intervene as part of a joint, coalition operation. For several in particular, maintaining the capacity to conduct them promptly and effectively could strengthen deterrence, making the very possibility of war less than it would be otherwise. Here is my list:

- A Russian invasion threat to the Baltic states
- A second Korean war, including possible Chinese involvement
- A maritime conflict between China and Japan or the Philippines that spills over onto land
- A fissioning of Pakistan, perhaps combined with a complex humanitarian emergency sparked by a major natural disaster in South Asia
- Indo-Pakistani war, perhaps over a terrorist strike, with Kashmir providing the spark
- Iranian use or threatened use of nuclear weapons against a neighbor
- A major international stabilization operation, as in Syria after a negotiated peace
- Civil war accompanied by terrorism and perhaps a biological pandemic within Nigeria . Increase in the brutality and reach of criminal networks in Central America
- A major domestic emergency in the United States

Consideration of these scenarios leads me to advocate a million-soldier U.S. Army, similar to today's capability, with roughly the current mix between active component and reserve component forces. The Marine Corps would retain roughly its current size and strength as well. Under my proposal, the ground forces would be sized, equipped, trained, and prepared for what I call a "1+2" framework—with the "1" contingency being a large-scale conflict (like some of the more demanding operations suggested above, such as Korea) and the "2" most likely long, multilateral oper-

⁶Secretary of Defense Chuck Hagel, *Quadrennial Defense Review 2014* (Washington, D.C.: Department of Defense, 2014), p. 22, available at defense.gov/pub/s/2014_Quadrennial_Defense_Review.pdf.

⁷Richard N. Haass, *War of Necessity, War of Choice: A Memoir of Two Iraq Wars* (New York: Simon and Schuster, 2009).

ations involving some combination of stabilization, relief, counterterrorism, deterrence, and assistance to local partners. All three operations could occur at the same rough time period (and if they did, we would need to start growing the Army as well, in anticipation of possible further demands).

Such messy missions may not be what we want as a nation. They certainly are not what our brave soldiers (and other members of the joint force, as well as diplomats and aid workers) might prefer to conduct in faraway lands. But in this complicated, huge, interdependent, dangerous world, they probably will be in our future whether we like it or not.

Chairman MCCAIN. Thank you. Mr. Martinage?

**STATEMENT OF ROBERT C. MARTINAGE, SENIOR FELLOW,
THE CENTER FOR STRATEGIC AND BUDGETARY ASSESS-
MENTS, WASHINGTON, D.C.**

Mr. MARTINAGE. First off, I would just like to thank the committee for the opportunity to share my views on how we might realign the roles and missions of the armed forces to better address emerging operational and strategic challenges, as well as take more advantage of new opportunities.

I would like to focus my remarks on three broad areas for potential change: the possible creation of new services for space, cyber, and special operations, the need for increased service specialization, and the concept of what I call comparative jointness, meaning encouraging healthy intra- and inter-service rivalry to foster innovation.

So, first, creating new services. While few argue that air power merited an independent service in the immediate wake of World War I, the momentum behind the establishment of the Department of Air Force was strong by the end of World War II. Today in comparison to air power, cyber and space forces are arguably somewhere in the later inter-war period. Cyber and space warfare capabilities have been developed, but have yet to be tested in high intensity combat.

So looking specifically at cyberspace, it has clearly become a vital operational domain for U.S. military forces that is similar, but yet unique, from the air, sea, and space. Unlike the other warfare domains, it encompasses physical elements, such as communications infrastructure, and computer networks, electromagnetic radiation, traveling through air and space, and the virtual world of computer code and data processing. It is distinct culturally as well. We are requiring different types of warriors to fight it.

Given these myriad differences and its growing importance, cyber warfare may warrant an independent branch of the armed services. As a step in this direction, in 2010 DOD's U.S. Cyber Command, which is staffed in large part by the services, but in addition each service maintains its own cyber component that is technically subordinate to Cyber Command, but is also controlled by the respective service chain of command. This approach has a number of drawbacks, including duplication of effort, potential inconsistency across the Joint Force, and lack of continuity as personnel rotate in and out of their cyber positions every three years.

An independent service focused on cyber operations would offer at least six potential benefits: unity of command, better enforcement of common cyber and information technology standards, different recruiting standards, training programs and retention strat-

egies, dedicated career paths to enable the development of deep technical and operational expertise over time, the formulation of cyber and operational concepts and doctrine independent of the parent service culture, and centralized management of cyber manpower and resources. Of course, there are some potential downsides, which I also get into in my prepared statement.

With respect to space, while each service has its own space professionals, most of the expertise currently resides within the Air Force. But space operations are fundamentally different from air operations. The laws of aerodynamics govern activities in space, whereas the laws of aerodynamics govern air power. Like space—like cyber—excuse me—space operations require specialized skill sets, training, equipment, operational concepts and doctrine. The culture of the space community is also far different from the very pilot-centric one that dominates the Air Force. Accordingly, it may be worth considering the establishment of an independent service to organize, train, and equip space warfare operators.

In 2010, Congress created the Commission—I mean, in 2001 created Congress created the Commission to Assess United States National Security Management and Organization, the so-called Rumsfeld Commission, that looked at the specific issue. At the time, they decided the disadvantage of creating a separate space service outweighed the advantages. As they put it at the time, there is not yet a critical mass of qualified personnel, budget requirements or missions sufficient to establish a new Department. They did, however, leave open the possibility that a military department of space might be needed at some future date.

I think it is instructive to reflect on what has or, more importantly, what has not happened over the past 14 years since that commission was formed. First, United States space systems have increased significantly, most notably from China and, to a lesser degree, from Russia, and it is not at all clear that we are keeping pace with the threat. Second, until recently most of DOD's larger space system acquisitions experienced considerable difficulty. The past decade is littered with failed or canceled programs, ones with staggering costs and scheduled overruns.

Third, while financial and program turbulence exacted a toll on the space industrial base across the board, the U.S. space launch sector has severely atrophied. For over 15 years, for example, the United States has been in the very unfortunate position of having to purchase RD-180 rocket motors designed and built in Russia for use on the Atlas 3 and 5 space launch vehicles owing to the lack of a domestic supplier.

In short, most of the urgent items identified by the Commission 14 years ago remain partially or completely unaddressed. It certainly appears that the Nation has become more, not less, vulnerable in space. While threats have intensified and proliferated, space-related acquisitions have been slow and disordered, and the U.S. industrial base has grown weaker. While it is impossible to say with certainty, the focus of attention—the focused attention of a dedicated space service may have prevented some of this downward slide.

Like Cyber Command, there are a number of benefits of potential new space service in the years ahead dealing with recruitment,

space career paths, space operational concepts, a dedicated funding stream, and the concentrated and dedicated management of space systems acquisitions. It is a long list.

Switching now to Special Operations Command [SOCOM]. SOCOM is a hybrid organization like the services. It is a force provider to the combatant commands, but like the other combatant commands it is involved in operational planning, force allocation, and, in some cases, execution of military operations. The primary reason to consider elevating SOCOM to a full-fledged service would be to give it far more flexibility in managing the career paths of its highly-skilled operators, both enlisted and officers.

I would like to switch now to the second major topic, increased service specialization. There are many unintended consequences of the Key West Agreement as reinforced by Goldwater-Nichols. First, the service budget allocations have remained fixed over the past three decades, which has stifled innovation. Second, there is an everyone plays mentality when it comes to contingency planning and, thus, resource allocation. Within the respective Key West stovepipes, the services have over invested in capabilities for conducting operations in medium threat environments with the implicit reasoning that such capabilities can swing to the low end or to the high end. The problem, however, is that such middle of the road capabilities are often inefficient in terms of cost with respect to lower-end contingencies, and inadequate operationally for higher-end ones.

In my prepared remarks, I have a series of examples of how the Marine Corps, the Army, and the Air Force, and Navy might become more specialized to deal with both these low- end and high-end threats, and I am happy to discuss in the questions if you are interested.

The third major area for change is what I call competitive jointness. Intra- and inter-service competition should be more strongly encouraged. The inter-service crowding into each other battle space, if managed properly, could give the services—keep the services on their toes, foster innovation, and lead to a more robust future force. A competitive approach to joint operations would allow alternative service concepts to vie for incorporation and to regional contingency plans and, thus, demand a larger share of the budget.

To enable competitive jointness, some of the service monopolies on specific missions protected as “primary functions” in Secretary James Forrestal’s memorandum in 1948 and that have hardened over time will need to be opened to competition. Many of the collateral functions enumerated for each service, but largely ignored since 1948, will need to be elevated in importance. Again, I have a lot more detail on those examples of how we might foster more intra- and inter-service competition for—to foster innovation in my prepared remarks.

So to conclude, the emergence of new capabilities in the evolving threat landscape demand a fundamental re-look at the Key West Agreement and the subsequent evolution of service roles and missions. It may well be time to establish new independent services for space and cyber, as well as to elevate SOCOM to a full-fledged service. Given flat or declining resources for defense and ongoing threat trends, service investments that focus on being a jack of all

trades but master of none are increasingly problematic. Accordingly, increased service specialization in selected areas should be given serious attention.

And finally, intra- and inter-service competition should be more strongly encouraged as a means of fostering innovation. To do so, many of the service mission monopolies that have hardened since 1948 will need to be broken, and many of the so-called collateral missions that have been ignored or under invested in to date will need to be elevated in importance.

Thank you.

[The prepared statement of Mr. Martinage follows:]

PREPARED STATEMENT BY ROBERT MARTINAGE

Chairman McCain, Ranking Member Reed, and members of this distinguished committee, thank you for the opportunity to share my views on how we may need to realign the roles and missions of the Armed Forces to better address emerging operational and strategic challenges, as well as to exploit new opportunities for sustaining U.S. military superiority.

After private meetings with the Joint Chiefs a month earlier in Key West, Florida, Secretary of Defense Forrestal signed out a memorandum codifying the "Functions of the Armed Forces and the Joint Staff" on April 21, 1948. The Department of Defense (DoD) was wrestling with three major internal issues at the time: the creation of the Air Force as a full-fledged military Service, the division of responsibilities for deterrence and warfighting in the atomic age, and the role of the U.S. Marine Corps relative to the U.S. Army with respect to conventional power projection. Externally, the Soviet Union was in the process of consolidating control over Eastern Europe and had not de-mobilized following World War II to nearly the same degree as the Allies. The Soviet blockade of Berlin was intensifying, which would lead just two months later to the commencement of the Berlin Airlift. A little more than a year later, the United States would lose its atomic monopoly with the Soviet's successful test of an implosion device in August 1949. Unbeknownst to the participants at the Key West meeting, two years later, the Nation would be engaged in a large-scale war on the Korean Peninsula.

Today, DoD arguably faces an even wider array of threats, opportunities, and planning uncertainties. After more than a decade of sustained military operations in Afghanistan and Iraq, the United States military continues to confront a range of global security challenges. In Europe, Russia is resurgent and increasingly assertive in its near abroad. In the Middle East, the Syrian civil war is heating up with the involvement of a growing number of external powers, Iraq is unstable, the Islamic State of Iraq and the Levant (ISIL) has risen to power, and Iran continues to expand its ballistic missile arsenal as it drives toward a nuclear weapons capability. In Central Asia, the security situation in Afghanistan remains tenuous and will likely deteriorate as United States forces withdraw over the coming year. In East Asia, an unstable, nuclear-armed North Korea remains as belligerent as ever, while China pursues hegemonic ambitions, becoming increasingly confrontational in the South China Sea. The metastasizing radical Islamic threat has spread from the Middle East and Central Asia into Africa. At the same time, traditional sources of U.S. military advantage are being undermined by the maturation and proliferation of disruptive technologies—most notably, anti-access/area-denial (A2/AD) capabilities.¹ DOD must also come to grips with the emergence of war in two new domains: space and cyberspace.

The roles and missions of the Armed Forces need to be realigned to better address these manifold challenges and preserve U.S. military superiority in the decades ahead. In addition, while beyond the scope of this hearing, closely related adjustments are also needed to the Joint Staff model established with the Goldwater-Nichols Department of Defense Reorganization Act of 1986 and the current Unified Command Plan (UCP). The remainder of my remarks will focus on three broad areas for change: the possible creation of new Services for space, cyber, and special operations; the need for increased Service specialization; and the concept of "competitive

¹"Anti-access" refers to the ability to slow or prevent the deployment of U.S. forces into a given theater of operation or cause them to base operations farther away than would be preferred. "Area denial" captures actions to restrict freedom

jointness,” meaning encouraging healthy intra-and inter-Service rivalry to foster innovation.

CREATING NEW SERVICES

While few argued that air power merited an independent Service in the immediate wake of World War I, the momentum behind the establishment of the Department of the Air Force was strong by the end of World War II. Today, in comparison to air power, cyber and space forces are arguably somewhere in the late inter-war period. Cyber and space warfare capabilities have yet to be tested in high intensity combat. The dominant view in the national security community, however, appears to be shifting from not whether there should be separate cyber and space Services, but when to take those steps. While U.S. Special Operations Command (SOCOM) is now well established, has proven itself repeatedly in operations over the past decade, and has the lead for DoD on counter-terrorism operations around the world, it may now be time to reinforce success and elevate it to a full Service.

TOWARD A NEW CYBER SERVICE

Cyberspace has become a vital operational domain for U.S. military forces that is similar—and yet unique—from the air, sea, land, and space.² Unlike the other warfare domains, it encompasses physical elements (e.g., communications infrastructure and computer networks), electromagnetic radiation traveling through air and space, and the virtual world of computer code and data processing. It is distinct culturally as well, requiring different types of warriors than the other Services. Given these myriad differences and its growing importance, cyber warfare may warrant an independent branch of the Armed Services to recruit, organize, train, equip, and retain skilled personnel; prioritize and manage financial resources; and develop domain-relevant operational concepts and doctrine.

While most cyber attacks against American entities have been motivated by espionage or greed, there have also been attempts to sabotage critical infrastructure. China, Russia, and other prospective adversaries have established dedicated cyber units and write frequently about the employment of cyber weapons. The People’s Liberation Army (PLA), for example, has cultivated a comprehensive computer network attack capability over the past decade concentrated within the Fourth Department of the General Staff Department.³ While most of China’s cyber activity to date has focused on intelligence collection, it has demonstrated a sophisticated penetration and exploitation capability.⁴ There is also a strong possibility that Chinese actors have left behind malware in DoD systems. In light of PLA doctrine, in the event of hostilities, it is likely that cyber attacks would be focused on U.S. and allied C4ISR and logistic support networks.

In 2010, DoD stood up U.S. Cyber Command, and in 2013 it activated the Cyber Mission Force comprising National Mission Teams, Combat Mission Teams, and Cyber Protection Teams—all of which are staffed by the Services.⁵ In addition, each of the Services maintains its own cyber component that is technically subordinate to Cyber Command, but also controlled by their respective Service’s chain of command. This approach has a number of drawbacks, including duplication of effort and lack of continuity as personnel rotate in and out of cyber positions every 2–3 years. An independent Service focused on cyber operations would offer a number of potential benefits:

- Unity of command;
- Promulgation and enforcement of common cyber and information technology standards;
- Tailored recruitment standards (e.g., relaxed physical fitness and dress/grooming requirements), training programs, and retention strategies;
- Dedicated career paths to enable the development of deep technical and operational expertise over time;
- Formulation of cyber operational concepts and doctrine independent of the parent Service’s culture; and

²For an excellent argument in favor of an independent cyber Service, see Admiral James Stavridis and David Weinstein, “Time for a U.S. Cyber force,” *Proceedings*, January 2014.

³Bryan Krekel, Patton Adams, and George Bakos, “Occupying the Information High Ground: Chinese Capabilities for Computer Network Operations and Cyber Espionage,” report prepared for the United States-China Economic and Security Review Commission, March 7, 2012.

⁴Kevin Pollpeter, “Controlling the Information Domain: Space, Cyber, and Electronic Warfare,” in Tellis and Tanner, eds., *China’s Military Challenge—Strategic Asia 2012–2013*, pp. 172–177.

⁵Stavridis and Weinstein, “Time for a U.S. Cyber Force,” *Proceedings*, January 2014.

- Centralized prioritization and management of cyber manpower and financial resources.

There are, however, some potential downsides to standing up a cyber Service at this time.

First, it might be preferable to have the current Services compete for the mission to spur innovation in what is a nascent warfare domain. Second, by deferring the decision, Cyber Command would have additional time to establish a strong institutional foundation upon which a future Service could be built to include cultivating a critical mass of skilled personnel and a cyber warfare culture. Third, the current approach identifies and pulls promising cyber warfare candidates from a very large personnel pool. Whether or not a new cyber Service could recruit sufficient talent from the existing Services, government agencies, and from the commercial sector is an open question.

It is sometimes argued that instead of a separate Service, it would make more sense to stand up a unified functional combatant command similar to SOCOM. However, unlike SOCOM, whose functions span multiple warfare domains, Cyber Command focuses on only one: cyberspace. Therefore, while SOCOM requires the core competencies of all the Services to conduct operations on land, at sea, in the air, and in space, Cyber Command does “not require any of the core competencies of the five Services; in fact, the cyber domain requires precisely the core competencies that none of the other branches possesses.”⁶

TOWARD A NEW SPACE SERVICE

While each Service has its own space professionals, most of the expertise currently resides within the Air Force. Space operations, however, are fundamentally different from air operations. The laws of astrodynamics govern the former whereas the laws of aerodynamics govern the latter. Space operations require specialized skill sets, training, equipment, operational concepts, and doctrine. Accordingly, it may be worth considering the establishment of an independent Service to organize, train, and equip space warfare operators.

In 2001, the Commission to Assess United States National Security Space Management and Organization concluded that the disadvantages of creating a separate space Service outweighed the advantages. As they explained, “There is not yet a critical mass of qualified personnel, budget, requirements, or missions sufficient to establish a new department.”⁷ They did, however, call for a number of organizational reforms and left open the possibility that “U.S. interests may require the creation of a military department of space at some future date.”⁸ The Commission also identified matters of key importance that demanded urgent, senior-leader attention, including the matter that “the U.S. must develop the means both to deter and to defend against hostile acts in and from space.”⁹ It is instructive to reflect on what has—or perhaps more importantly, what has not—happened over the past 14 years. Most of the urgent items identified by the Commission, for instance, remain partially or completely unaddressed.

Mounting Threats

Threats to United States space systems have increased significantly—most notably from China and to a lesser degree from Russia. The PLA first targeted American satellites with a High Energy Laser (HEL) in 2006.¹⁰ Building upon the successful SC-19 direct-ascent ASAT test against a defunct weather satellite in low earth orbit (LEO) in January 2007, which created thousands of pieces of space debris, China demonstrated an ability to attack satellites in higher earth orbits in May 2013.¹¹ China also conducted a non-debris-creating test of an ASAT missile for use against LEO targets in July of 2014.¹² According to one source of emerging PLA space doctrine, China seeks to have fielded space weapons systems, including both land-based

⁶ *Ibid.*

⁷ *Report of the Commission to Assess United States National Security Space Management and Organization* (Washington, DC: DoD, 2001), p. 80.

⁸ *Ibid.*

⁹ *Ibid.*, pp. 9–10.

¹⁰ David Axe, “Chinese Laser vs. United States Sats?” *Defensetech*, September 25, 2006, available at <http://defensetech.org/2006/09/25/chinese-laser-vs-u-s-sats/>.

¹¹ Mike Gruss, “Pentagon Says 2013 Chinese Launch May Have Tested Antisatellite Technology,” *Space News*, May 14, 2015, available at <http://spacenews.com/pentagon-says-2013-chinese-launch-may-have-tested-antisatellitetechnology>; and William Broad and David Sanger, “Flexing Muscle, China Destroys Satellite in Test,” *New York Times*, January 19, 2007, p. 1.

¹² Office of the Secretary of Defense (OSD), *Annual Report to Congress: Military and Security Developments Involving the People’s Republic of China 2015* (Washington, DC: OSD, 2015), p. 35.

and co-orbital ASATs, by 2025 that are “capable of destroying or temporarily incapacitating all enemy space vehicles that fly in space above our sovereign territory.”¹³

The United States has taken some steps to improve its space situational awareness, as well as to develop space control capabilities. The National Defense Authorization Act for 2015, for example, authorized funds for the recently created Space Security and Defense Program, whose mission is “the development of offensive space control and active defense strategies and capabilities.” It appears, however, that the United States is lagging behind the threat in terms of fielding operational offensive and defensive space control capabilities.

Acquisition Difficulties and Weak Industrial Base

Until recently, most of DOD’s larger space system acquisitions experienced billions of dollars in cost increases and delayed schedules. The past decade is littered with failed or canceled programs (e.g., TSAT, space-based radar, and Future Imagery Architecture) or ones with staggering cost overruns. According to GAO, estimated space acquisition costs for fiscal years 2012–2017 grew by a staggering \$22.6B or nearly 230 percent over the initial baseline.¹⁴ The Advanced Extremely High Frequency (AEHF) program, for example, more than doubled from an original total program cost of \$6.3B to over \$14B, and its first launch in 2010 was six years later than planned. The Space-Based Infrared System (SBIRS), which was initially estimated to cost \$4.7B, is now expected to cost \$19B, and its first launch in 2011 was roughly nine years late.¹⁵

While financial and program turbulence has exacted a toll on the space industrial base across the board, the U.S. space launch sector is arguably the weakest. For over 15 years, the United States has been in the very unfortunate position of having to purchase RD–180 rocket motors designed and built in Russia for use on the Atlas III/V space launch vehicles owing to the lack of a domestic supplier. In May 2014, in the wake of declining United States-Russian relations over events in Ukraine, senior Russian officials threatened to ban the United States from using RD–180 for military launches. Congress is also opposed to continued reliance upon Russian engines. The United States Government is now scrambling to find domestic alternatives. Re-building the rocket motor industrial base, however, takes time and it will probably not be possible to field a new engine for several years.

With the focused attention of a dedicated space Service, acquisitions may have been better managed and the industrial base would have had a more powerful bureaucratic advocate.

Looking Ahead

The organizational reforms flowing from the recommendations of the Commission to Assess United States National Security Space Management and Organization have proven insufficient. The critical capability shortfalls that were identified 14 years ago have not been adequately addressed. The Commission questioned in 2001 “whether, as in the past, a disabling attack against the country and its people—a ‘space Pearl Harbor’—will be the only event able to galvanize the nation and the cause the United States Government to act.”¹⁶ It certainly appears that the Nation has become more—not less—vulnerable in space since 2001. While threats have intensified and proliferated, space-related acquisitions have been slow and disordered, and the United States industrial base has grown weaker. Until recently, the development and fielding of space control capabilities was not afforded priority attention. Similarly, the recruitment, training, and retention of space warfare professionals remain mostly unchanged.

The potential benefits of standing up a new space Service would be:

- Better control over recruitment, training, promotions, and retention of skilled personnel;
- Creation of dedicated space career paths, fostering development of deep technical and operational expertise;
- Formulation of space operational concepts and doctrine unencumbered by legacy “air power” approaches;

¹³Li Daguang, *Space Warfare* (Beijing: Military Science Press, 2001), pp. 413–414; and Anthony Mastalir, “The PRC Challenge to United States Space Assets,” in Erickson and Goldstein, eds., *Chinese Aerospace Power*, pp. 74–75.

¹⁴Cristina Chaplain, “Space Acquisitions—DoD is Overcoming Long-Standing Problems, but Faces Challenges to Ensuring its Investments are Optimized,” GAO Testimony Before SASC Subcommittee on Strategic Forces, April 24, 2013, pp. 2–3.

¹⁵*Ibid.*, p. 8.

¹⁶*Report of the Commission to Assess United States National Security Space Management and Organization* (Washington, DC: DoD, 2001), p. 15.

- A separate funding stream that does not compete with other Air Force priorities; and
- Centralized prioritization and focused management of space systems acquisition.

As an interim step in this direction, U.S. Space Command could be broken out from under Strategic Command and transformed into a unified combatant command with major force program (MFP) funding similar to SOCOM.

It might also make sense to incorporate the Air Force's strategic missile forces into the new space Service. Over time, much like the PLA's Second Artillery Corps, the space Service's missile branch could expand into conventional long-range, precision-strike operations with ballistic missiles, boost-glide weapons, and sub-orbital weapons.

ELEVATING SOCOM TO A SERVICE

Almost seven years to the day after the tragic failure of Operation Eagle Claw/Operation Evening Light at a temporary airstrip in Iran, dubbed Desert One, SOCOM was created by an act of Congress, over the strenuous opposition of the Armed Services and the Joint Staff, to improve the capabilities, readiness, and command and control of special operations forces. The key impetus for the creation of SOCOM was the Holloway Commission report on the failed Desert One hostage-rescue mission, which among other things highlighted poor command and control, interoperability, and readiness within and among the Services' respective special operations units.

SOCOM is responsible for organizing, training, equipping and deploying SOF to geographic combatant commanders. Furthermore, SOCOM is the lead combatant command for planning, synchronizing, and, as directed, executing global operations against terrorist networks in coordination with other combatant commanders. In essence, SOCOM is a hybrid organization: like the Services, it is a force provider to the geographic combatant commands; like other combatant commands, it is heavily involved in operational planning, force allocation, and, in some cases, execution of military operations. Reflecting SOCOM's unique hybrid status, it is the only combatant command with the authority to submit its own program objective memorandum to the Secretary of Defense and to have its own acquisition executive and funding line, referred to as Major Force Program-11 (MFP-11), for conducting R&D and procuring materials, equipment, supplies, and services unique to special operations requirements.

The primary reason to elevate SOCOM to a full-fledged Service would be to increase the command's control over its personnel. Currently, the individual Services are ultimately responsible for managing the career paths of special operators, which is a source of considerable institutional tension. As a Service, SOCOM would have more flexibility in managing the career paths of its highly skilled operators. Second, while SOCOM takes full advantage of MFP-11's flexibility, it is nevertheless constrained in some respects by ossified Service acquisition processes. As a Service, with increased funding and a more robust acquisition workforce, SOCOM could potentially develop and field a wider range of SOF-unique and SOF-tailored equipment and weapons systems more quickly.

INCREASED SERVICE SPECIALIZATION

One of the many unintended consequences of Goldwater-Nichols has been an acceptance of what is often referred to as "Little League rules," meaning that every Service is entitled to a role in planning and conducting nearly all military operations across the spectrum of conflict regardless of whether or not it makes the most sense operationally or is the best use of available resources. Every Service "gets to play" to justify its respective program of record and defend its budget allocation. As a result, Service budget allocations have remained remarkably fixed over the past three decades, which has stifled innovation. A corollary is that the Services have over-invested in capabilities for conducting operations in medium-threat environments with the implicit reasoning that such capabilities can swing to the low-end or high-end. The problem, however, is that such middle-of-the-road capabilities are often inefficient in terms of cost with respect to lower-end contingencies and inadequate operationally for higher-end ones.

What might a more "specialized" joint force look like? The Marine Corps, for example, could focus on being the Nation's crisis response force in readiness for contingencies in low-to-medium threat environments around the globe. In exchange, it would give up on high-risk, high-cost notions of forcible entry operations in high-end A2/AD environments. It would also eschew protracted counter-insurgency and stability operations. The Army could focus on developing the cultural, language, and

specialized skill sets to be the Nation's lead for counter-insurgency, stability operations, and building partner capacity. It could also develop and field mobile, cross-domain missile forces (e.g., surface-to-air missiles, anti-ship missiles, long-range ASW weapons, and surface-to-surface missiles) to both enable and conduct power projection operations in A2/AD environments. The Air Force and the Navy might shift more strongly toward a "high-low" force mix with the high focused on conventional power projection in A2/AD environments and the low focused on persistent ISR-strike presence in more benign environments. For the Air Force, this might entail curtailing investment in medium-threat environment capabilities such as short-range, manned fighters in favor of extended-range MQ-9 *Reaper* UAVs, RQ-4 *Global Hawk* High Altitude Long Endurance (HALE) ISR UAVs, and commercial derivative aircraft for the low end of the mix and LRS-B, penetrating HALE ISR UAVs, and a land-based unmanned combat air systems (UCAS) for the high end.

For the Navy, this might mean increased investment in Joint High Speed Vessels/Expeditionary Fast Transports, Afloat Forward Staging Bases/Expeditionary Mobile Bases, Littoral Combat Ships, and frigates for the low end and stealthy carrier-based UCAS, additional attack submarines, undersea payloads, and unmanned undersea vehicles (UUVs) for the high.

COMPETITIVE JOINTNESS

Intra- and inter-Service competition should be strongly encouraged, with the Secretary of Defense and his key advisors as referees. Inter-Service crowding into each other's battlespace in particular, if managed properly, could keep the Services on their toes, foster innovation, and lead to a more robust future force. A competitive approach to joint operations would allow alternative concepts to vie for incorporation into regional contingency plans and secure DoD investment resources.

Encouraging competition within and among the Services does not mean that the Services should adopt a go-it-alone approach to warfighting. The intent of what might be called competitive jointness is to exploit the expertise inherent in divergent approaches and expand the range of warfighting options presented to joint force commanders. Each branch or Service or would be encouraged to integrate the capabilities of other branches or Services, respectively, to enhance its own capabilities and achieve theater objectives.

To enable competitive jointness, some of the Service monopolies on specific missions protected as "primary functions" in Secretary Forrestal's "Functions of the Armed Forces and the Joint Staff" memorandum from 1948 will need to be opened to competition, and many of the "collateral functions" for each Service will need to be elevated in importance.

The Army's primary function of defeating land forces, for example, should be open to the Navy and the Air Force, and its collateral function "to interdict enemy sea and air power and communications through operations on or from land" should become a new area of conceptual and capability development.

Similarly, the Navy's primary functions "to seek out and destroy enemy naval forces and to suppress enemy sea commerce, to gain and maintain general sea control, and to control vital sea areas to protect sea line of communications" should be open to competition by the Air Force and Army. Meanwhile, the Navy's collateral function to "interdict enemy land and air power and communications through operations at sea" should be a focus of operational concept development along with the fielding of critical enabling capabilities.

Finally, the primary functions of the Air Force for "defense of the United States against air attack," as well as to "gain and maintain air supremacy" and "defeat enemy air forces," should be open to competition by the Navy and the Army. All three of the Air Force's assigned collateral functions—interdicting enemy sea power, conducting anti-submarine warfare and shipping protection, and conducting aerial minelaying operations—should be growth areas for the future.

CONCLUSION

The emergence of new capabilities and the evolving threat landscape demand a fundamental re-look at the Key West Agreement as promulgated by Secretary of Defense Forrestal in April 1948. It may well be time to establish new independent Services for space and cyber operations, as well as to elevate SOCOM to a full-fledged Service. Given flat or declining resources for defense and threat trends shaping the future security environment, being a "jack of all trades, but master of none" appears to be an increasingly problematic proposition. Accordingly, increased Service specialization in selected areas should be given serious consideration. Finally, intra- and inter-Service competition should be strongly encouraged as a means of fostering innovation. To do so, many of the Service mission monopolies that have hard-

ened since 1948 will need to be broken and many of the collateral missions that have been ignored or under-invested in to date will need to be elevated in importance.

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The Center for Strategic and Budgetary Assessments (CSBA) is an independent, nonpartisan policy research institute established to promote innovative thinking and debate about national security strategy and investment options. CSBA's analysis focuses on key questions related to existing and emerging threats to U.S. national security, and its goal is to enable policy makers to make informed decisions on matters of strategy, security policy, and resource.

Chairman MCCAIN. Well, thank the witnesses. You know, just a comment, we with Goldwater-Nichols encouraged jointness as one of the major factors of it, yet we want competition. We want them to be joint, and we want them to be competitive. I am still not sure how we get our arms wrapped around that one.

It seems to me, if I recall my history, and I think it is right, that in World War II we had basically two commands. We had a European command under General Eisenhower, Supreme Allied Commander Europe [SACEUR], and we had a Pacific Command under Admiral Chester W. Nimitz, eight million people under arms. Now we have a proliferation of commands.

It seems to me that every time I turn around there is a new crisis, so the answer is create a new command. Problems in Africa, let us have an Africa Command [AFRICOM]. Let us have a Northern Command [NORTHCOM] and a Southern Command [SOUTHCOM] with an arbitrary line between Guatemala and Mexico. Every one of these commands creates large staffs, requires large support, requires contractors. We have watched the number, especially Dr. O'Hanlon, we have watched the number of brigade combat teams go down while we watch the support contractors staffs go dramatically up.

So here we are before the committee and saying, well, we need a cyber command. I do not disagree. I do not disagree with that, and SOCOM we are all proud of. SOCOM crosses all of those geographic lines. So it seems to me or I am not convinced that this increase in commands that we have experienced particularly in an almost accelerated process and now calls for another command, which I am not opposed to. It seems to me that at some point, should we not look at the whole structures as they are, particularly since the greatest threats that we face in the opinion of most crosses boundary lines, crosses oceans, and crosses all aspects of geography, whereas our commands were set up for basically different geographical parts of the world.

And so, again, I am not against a cyber command. In fact, I think we would probably agree to it. But should we not look at the other end of the spectrum here? Do we need to just have a proliferation of commands and, by the way, a commensurate increase in admirals and generals? So maybe I could begin with you, Mr. Martinage.

Mr. MARTINAGE. I think you raise a really good point. I think, you know, when you look at cyberspace and special operations commands, I mean, there is already a significant headquarters and overhead associated with those. The question is if you elevate them to a service, give them more independence in terms of their budget

authority, give them more control over their resources and managing their personnel, do you—is that worth the investment.

But I would separate that from the geographic combatant commands, which I agree with you have become too large, and have become much more like mini State Departments than actual combat, you know, preparing organizations. So, you know, a lot that could be done—you know, we have these combatant commands, but then when we have a contingency we set up a joint task force, which I think reflects a lot of this.

So anyway, I think—I agree with you. I think that we could pare back the number of or size of our geographic combatant commands, but I would separate that from the question of do we want to think about elevating SOCOM or creating a space or cyber service, which I think is a different question.

Chairman MCCAIN. Doctor? Dr. O'Hanlon?

DR. O'HANLON. Thank you, Senator. I would just make the brief point that I agree with the thrust of your argument. The nice thing is we now sort of have a geographic command for every continent, so there probably is not a whole further to go, and I hope we do not go any further. But on the functional commands—

Chairman MCCAIN. We have two for this—

DR. O'HANLON. That is a good point, and one could make the argument, especially you put it very well that Guatemala, Mexico, it is sort of an unnatural division. Obviously Northern Command is thinking about the defense of the homeland fundamentally. Southern Command is thinking about Latino allies fundamentally, but perhaps that is something that could be juxtaposed.

Cyber, however, strikes me as different enough, and hard enough, and technical enough that I am sympathetic to the idea of according it its own command. I do not know about a separate service. I do not know about separate services for space and special operations, but I think having a cyber command recognizes the technical challenge of the operations associated with that and the importance of cyber to everything we do. So that is probably the one example where I would be willing to go ahead.

Chairman MCCAIN. You would—might agree that jointness does not foster inter-service competition?

DR. O'HANLON. You know, Senator McCain, as a person who is not in the military, I have admired the balance between competition and cooperation. I generally think it is pretty good today. I take your point that there is a tension, and one could easily see it skewed too far in one direction or other. Historically, I think it has been at times skewed in one direction. I think Strategic Air Command in the 1950s had too much influence, and too big an idea of what it could accomplish with nuclear weapons, so there have been mistakes in the past. But today I think it is a pretty good balance between competition and collaboration.

Chairman MCCAIN. Mr. McGrath?

MR. MCGRATH. Very quickly on the cyber point. Cyber is so misunderstood by me, by perhaps people in the room, as to defy anything I think. There are strategic cyber activities that are held, I believe, at the level of the President. There are cyber activities that could be easily carried out at the individual unit ship board level.

Who controls those, who controls the ROE, all of those issues are very complicated, and I would as a former naval officer be loath to not have people on my ship who understood, who were wearing uniforms subject to my command, who understood what the impact of those cyber activities would be, or that we would just subcontract them all to a building somewhere in Maryland to come in from above.

With respect to jointness, I have written quite a bit. I think we are—jointness works at the level of war fighting. It works much less at the level of strategy and the making of strategy.

Chairman MCCAIN. General?

General DEPTULA. Yes, sir, very quickly. Great point on the challenge of balancing service perspectives versus joint just very quickly because many people—I know many here do, but external from this body some do not. That is the fact that to be joint requires that separateness of the services. It takes 20 to 25 years to master the skills of learning how to be a commander of a surface action group, or a division, or an air expeditionary force, or a Marine expeditionary force.

The beauty of the joint construct is that the services do not fight. The services organize, train, and equip, and provide these professionals to a joint task force commander who can then organize relative to the contingency that is facing him or her. So they can select from this menu of capabilities that require the separateness of the services, but then to integrate them to meet a particular contingency. So that balance is there.

Now, second point. In the context of—

Chairman MCCAIN. You have got to—you have got to accelerate a little bit. I am way over time.

General DEPTULA. Okay, sorry, sir. You are right on re-exploring the validity of the regional combatant commands that were established after World War II, and then we tack them on until we have got every continent. It ought to be part of the review of the 21st Century Roles and Missions Commission.

Cyber command versus service, probably needs to be a command first because, as Bryan mentioned, every one of the services has and is affected by the cyber domain.

Chairman MCCAIN. Thank you, General. Senator Reed?

Senator REED. Well, thank you very much, Mr. Chairman, and thank you, gentlemen, for your excellent testimony. The chairman has raised, I think, a fundamental question here about the way we have put together the military with both overlapping missions and responsibilities. Some argue it is wasteful, redundant. Others argue it spurs the kind of competition and complementarity that is—makes us successful.

And you can attack this in very different ways to look at it. One is the structural. Do we need these commands? The other is missions. I would just—I think it to be useful to the expertise here starting with the general. Are there sort of missions that are now being conducted by several services that are redundant, and on the other side of the ledger, missions that are more effectively carried out because they have several services engaged? That might help us, I think, sort of begin think through some of these.

So, General, if you have any thoughts.

General DEPTULA. Yes, sir. Obviously there is a lot of redundancy across all of the services, and this is one of the areas that we have got to revisit. If you take a look at the current 5100.01, there are a listed 28 common military department functions and 24 common military service functions. Obviously we do not have time to go into all of those here today.

A couple of the ones that stand out and deserve immediate attention is the whole issue of intelligence surveillance and reconnaissance, the use of remotely piloted aircraft. We have one service that is buying and developing essentially the carbon copy of the same kind of drone that is operated by another service. Why is that?

We have different organizational means of actually employing them. Some believe that the use ought to be up to the Joint Task Force commanders. Others believe that they should be inherent to the organic ownership of particular units. That is an issue that needs to be addressed.

The capability in the context of the mission area of deep attack, long-range strike is one that is maintained by all the services. A roles and missions review would take a good look at that. I mean, why do we have one service that is developing deep attack capability that is already resident in another?

And the other area is close air support. We have got multiple services with multiple systems that can all conduct close air support, yet we tend to focus on, and this is not a surprise to this committee, a particular aircraft and a particular service without looking across the different service stovepipes to take a holistic look at what we have available for close air support.

Senator REED. Thank you, sir. Mr. McGrath?

Mr. MCGRATH. Senator Reed, I would like to speak in favor of redundancy and overlap. When the chiefs got together at Key West, it was three months before the Berlin air lift. They had no concept of what was coming. Secretary Forrestal generally considered the product of Key West to be sub-optimal, that there was still far less efficiency gained and swim lanes designated than he wanted.

I think we are entering into a new period of great power dynamics, that overlap and inefficiency I think served us well through the Cold War. It does not mean it was the only thing that could have worked, but it was something that did work. So, if we look at a roles and missions review right now solely through the lens of efficiency and more efficient allocation of resources, I think we miss the bigger picture is if we are going to do it, it needs to be focused on preparing us to be ready for great power and competition.

Senator REED. Thank you. Dr. O'Hanlon and then Mr. Martinage.

DR. O'HANLON. Senator Reed, thank you. Just a very brief point about the Marines and the Army. To me, I have seen that they have actually done well in having a healthy competition in the wars in Iraq and Afghanistan. Of course, the Marines do not like to be seen, nor should they been seen, as a second army, but they did have certain sectors, as we all know, in both Iraq and Afghanistan, and they sometimes employed somewhat different tactics, and perhaps they were a little bit ahead of much of the Army, not General Petraeus, not General H. R. McMaster, but much of the Army

on the proper use of counterinsurgency tactics. I think there was a healthy competition and a back and forth getting ideas from each other.

There was a reputable book done by a former Washington Post reporter that thought that Marines went too far in Helmand Province in Afghanistan and created their own Marinastan in Helmand, and insisted only having their own TacAir support for their own forces. I think there was some validity to that concern, but General Stanley McChrystal, General Petraeus were in positions to overrule that if they needed to.

And so, I think generally speaking, the distinctiveness, the competition was probably okay, and we probably got more benefit from it than harm.

Senator REED. I would add in reflection, I think the Army learned a great deal from the Marine Corps because it became an expeditionary force essentially, and much more closer to the Marine Corps model than it was going into these operations. So it has been—that is an example of how competition, if you will, helps everybody in a sense. But, Mr. Martinage, quickly.

Mr. MARTINAGE. Again, I think it is a balancing act between specialization on one hand and then jointness and overlap on the other. I just come down, I think, in some cases with Bryan in terms of that overlap is good as long as you have competition in that area.

So, for example, anti-surface warfare, the Air Force has gotten out of that business over time in terms of anti-Navy capabilities. But you are feeling this long-range strike bomber [LRSB], very stealthy, capable aircraft armed with anti-ship missiles. It could be a very effective anti-surface warfare capability for the Nation, possibly surpassing what we could do with carrier strike groups, which could provide an impetus for the Navy to think about how they are going to go after that problem differently. So that is just one example of many.

Senator REED. Thank you very much. Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Inhofe?

Senator INHOFE. Thank you, Mr. Chairman. Well, first of all, General Deptula, I am very proud of your family and the fact that your daddy is here. I just am very pleased, and also with your career, the things that you have done, the things you have accomplished. I am not surprised in that you got your training at Vance Air Force Base. So anyway, I appreciate your being here.

And, Dr. O'Hanlon, it was kind of interesting. You brought up a couple of things. First of all, are you aware that in 1994 I was in the House? I was on the House Armed Services Committee. Sitting next to me was John McHugh, and we had testimony—this is 1994—by experts like you experts, except they were not quite to your level. They said in 10 years we would no longer need ground troops. Do you remember that discussion?

And I bring that up because whatever we say now goes back to what General Bob Gates said. You know, whatever we do and decide to do about the future of threats and preparing right now—we were 100 percent, we were wrong every time. Of course, that is one of the reasons that I am very happy that we have had a se-

ries of hearings over the last three, four weeks that I have really benefitted a lot from.

We have had, of course, Secretary Gates, and then we had one on the 22nd of October with some—four professors coming from their perspective. General Keith Alexander was here with some of the academic witnesses. I think—the one thing that they all had in common was that we are really not spending enough on defense. We are not getting enough resources in defense. We have a different world now than we have had before.

And we are now in a position where we have cut the military. I think you mentioned, Mr. McGrath, the same thing that I think General Gates, and he said in 1961 we had 51 percent of our resources went to defending America. Now we are down to 15 percent.

Now, I would ask each one of you, do you think that that is a problem. We have adopted a policy now that if we try to correct the problem that we are having that came with sequestration, that we have a policy now that we cannot increase the spending in defense unless we have an equal amount of increase in social programs. I would like to have, starting with you, General, your opinion of that policy.

General DEPTULA. Thank you, Senator, for the opportunity to comment on that. First order question that still little discussion has been given to. Everybody has an opinion on what we should do with defense spending relative to social spending. But I suggest that we go back to one of our foundational documents, which can provide some guidance, the Preamble of the Constitution, which we formed this government to “provide for the common defense, promote the general welfare.” It does not say provide for the general welfare and promote the common defense.

So if you take a look at what we have done in terms of sequestration, we have hit defense essentially at an excessive rate relative to the percentage of the budget that it makes up. So you are exactly right, we need to provide the resources to meet the national security strategy. If we want to be the world’s sole super power and to be able to engage on all the continents around the world to shape peace and stability, and then fight and maintain multiple contingencies simultaneously, we need to pay for it. We either do that or we change the strategy.

Senator INHOFE. Okay. Do the rest of you kind of agree with that generally? Yes, because we are short of time.

DR. O’HANLON. Senator, could I just make one very brief—

Senator INHOFE. Of course.

DR. O’HANLON. I would like to see domestic discretionary programs that are relevant to long-term national power supported, too. So I am most concerned about the overall downward pressure on all discretionary programs and the relative lenient treatment for entitlements and for tax considerations. I would rather see a much more integrated budget deal because those domestic programs on infrastructure, science, education I see as relevant to long-term national power.

Senator INHOFE. All right.

Mr. MARTINAGE. Two seconds. I would just like to say, I mean, I think we need a larger defense budget, but investing in more of

the same I think is not the solution. We face a different array of challenges, and doing more of the same is not going to work.

Senator INHOFE. Okay. I am almost out of time here, and I did not want to spend that much time on that because one of the problems that we are having now is one that everybody recognizes, all the other panelists. It is not exactly in the purview of what this is supposed to be about, but that is in the difficulty we have in making cuts in headquarters.

You know, we have been trying to do this for a long period of time. I have an analogy that I use, all bureaucracies are the same; they all want to grow. In the case of the FAA [Federal Aviation Administration] back in 2000, they had a budget of \$9.9 billion. Today it is \$16.5 billion, and they have fewer licensed pilots out there. It is just the nature of the bureaucracy.

And I think we are trying right now to address that. I know Secretary Gates and Secretary Chuck Hagel attempted to do it, and we in our defense authorization bill have actually—headquarters budget and personnel by cutting it \$435 million in personnel spending. We are making an effort to do that, and we have not been successful in doing it.

And since my time has expired, I would like to have each one of your for the record give your recommendations on what we can do to keep the—that level from growing regardless of what, you know, what the situation is. You said it very well, General, when you said the size of the Pentagon that won World War II was far smaller than the present enterprise. For the record, all right? Thank you.

General DEPTULA. Yes, sir. Very briefly, this needs to be one of the objectives, number one, of a roles and missions review. I went back and, I mean, I mentioned earlier we have 28 common military department functions, 24 service common service functions. That does not even touch the Office of the Secretary of Defense [OSD], which has exploded as well as the Joint staff.

This is a, what I call, as you were talking, the law of large organizations, and it will take leadership to put a stop to it. But we need to reduce, not continue to grow, and quite frankly you can do things better if you have smaller staff. So set an arbitrary limit and stick to it. You can start with cutting OSD by 25 percent.

Senator INHOFE. Yes, and just the rest can answer for the record. Thank you, Mr. Chairman.

Chairman MCCAIN. Senator King?

Senator KING. Thank you, Mr. Chairman. We had a very interesting hearing yesterday in the Budget Committee talking about some of these larger issues. I think it is important to put into perspective the discussion about defense spending and domestic discretionary spending. They represent just about 25 percent of the total Federal budget. We are fighting over a small piece and not discussing the major piece, which is entitlement spending, interest on the national debt, and tax expenditures which are now a trillion dollars a year equal to the entire discretionary budget.

So there is a lot of areas to discuss. I do not see this as a fight between the National Park Service and the Defense Department. It is a much larger discussion in terms of the context of this—of this issue.

General Deptula, first I want to say how impressed I have been by your testimony. The person who allowed you to retire should be hunted down and punished. Delighted to have you with us this morning. Give me a big picture in a minute, upside of reorganization. We are here today talking about reorganization. What do we gain? Is it financial? Is it effectiveness? As Chief Justice Warren Burger used to say, why are we here?

General DEPTULA. Sir, depending on how it goes, it could be all of those. It could be increased capability with fewer resources. But in order to get that end state, we need to think about different ways and how technology has enabled us to go there. You know, folks like to single out the F-35 and say, well, we can use fourth generation aircraft instead, but what they are doing is they are thinking about the F-35 as a replacement aircraft, older aircraft.

Part of the problem with weapons systems like F-35, F-22, and the next generation bomber is they are not Fs or Bs. They are F-B-E-A-R-C-E-W-A-W-C-S 22s and 35s. They are flying sensor shooters that with the proper context you could put together and match them and connect them with land forces, sea forces. A wingman to an F-35 should be an Aegis cruiser. Those kinds of concepts will allow us to become much, much more effective with fewer overhead in structure trying to use an employ forces the old way.

Senator KING. One of the concepts we have been talking about here is that the modernization of these large weapon systems—the new *Ohio*-class, the F-35, the strike bomber—we need to be thinking about modularization and modernization as built into the concept because we are building a 35- or 40-year asset, and it is obsolete the day it is built. We have got to be thinking about how it can be upgradable, it seems to me.

Specific question. Dr. O'Hanlon, you said something very interesting, and perhaps you could give me this on the record. The relative cost of a carrier versus a land base, do you have anything on that specifically? We know what a carrier costs. It is about \$12 billion. What about a base somewhere in the Persian Gulf?

DR. O'HANLON. Well, bases typically cost in the range of \$2 billion if they have to be very well fortified and protected. So that would be the investment cost, a land base, and that is going to include underground facilities for fuel, weapons, all sorts of redundancies so that you can survive hits. Of course, there are going to be costs that a land base is going to have incur thereafter that are going to be quite high—

Senator KING. But I think that is—but I think that is an interesting figure because there are areas of the world where we know we are going to have to station a carrier. Maybe it would be most cost-effective to station a station.

Another question, intelligence. We spend about \$70 billion on intelligence, \$50 on the civilian side, \$20 on the military side. Those are rough figures, unclassified. That is a lot of money. Is this an area where we could—where we could find some efficiencies? I just—I cannot help but believe that there is overlap having these multiple intelligence agencies essentially all watching what Assad is doing or what Putin is doing. Any thoughts on that, General?

General DEPTULA. Yes, sir. You are exactly correct.

Senator KING. Could the record show that?

[Laughter.]

General DEPTULA. Sixteen, 17 intelligence organizations. I used to go to the Executive Committee [EXCOM] on a, you know, monthly basis that the Director of National Intelligence [DNI] held, and I would sit around the table. I would listen to everybody, and then everyone would go back home to their own organizations and do their own thing again. It is an area that is worthy of further exploration to get to the point how do we integrate and avoid duplication and overlap.

Senator KING. Thank you. Thank you very much, gentlemen, for your testimony.

Chairman MCCAIN. Let the record show that the opinion of the senator from Maine for the first time in the history of this committee was exactly right.

[Laughter.]

Chairman MCCAIN. I am also reminded to correct the record concerning the Pacific in World War II. It was divided between Admiral Nimitz and General Douglas MacArthur. A West Point graduate was offended by my omission there, and I deeply apologize.

[Laughter.]

Chairman MCCAIN. I am not sure who is next.

Senator ERNST. Thank you, Mr. Chair. Thank you, gentlemen, for joining us here today. I appreciate your testimony very much.

I would like to kind of redirect back to our air powers for a little bit of discussion there. As many of you know, I and many of my colleagues have really been focused very much on the Air Force effort to divest the A-10. Many of us are strongly opposed to that. Senator Ayotte has been a wonderful leader in this effort, and I have known many warriors on the front lines that have had the benefit of close air support from the A-10. It is very highly regarded amongst members of our armed forces.

So I would just love to get your feelings on whether the A-10 should be divested, and certainly, General, let us start with you.

General DEPTULA. Well, thanks very much for the opportunity. The first point that I would like to make, and by the way, this gets to the heart of the subject of roles and functions, roles and missions. The close air support is a mission. It is not an airplane. As you have been—I do not know if you have been involved in close combat, but if you are being shot at by an adversary and all of a sudden that adversary gets terminated and you are no longer shot at, do you really care where the weapon came from that terminated the adversary? I do not think so.

Senator ERNST. General, do we have a platform if we should get rid of the A-10 right now as suggested by some? Do we have a platform that would perform that mission?

General DEPTULA. Yes. More than 70 percent of the close air support missions that have occurred in Afghanistan were by aircraft other than the A-10. Now, that is not to say it is not a magnificent platform, which gets to my other point, and that is why we need to look across service boundaries. In the United States Army, as you well know, we have got Apache helicopters. The A-10 performs a close air support mission much better than the Apache helicopter or the helicopters—attack helicopters in the Marine Corps.

So why do we not open the spectrum before we look at terminating one particular aircraft in one particular service stovepipe and look at the entire mission set, and look at what is the best way to meet our fiscal challenges while at the same time optimizing our military capability?

Senator ERNST. That is a great discussion. How about you, Mr. McGrath?

Mr. MCGRATH. I realize the world is not this simple, but we could trade, trade air defense artillery from the Army to the Air Force, trade the A-10 from the Air Force to the Army. Many of our allies around the world have air defense artillery in their air force. But I believe the plane, the A-10, and how it is revered by those who live under its protection, we should be very, very cautious about getting rid of that platform. Perhaps it should just be switched over to the Army.

Senator ERNST. Well, that was going to be my next question actually is I know the Army does not want to absorb the A-10, but that is a thought that is out there as well.

Mr. MCGRATH. I think they would absorb it if you gave them the money.

Senator ERNST. That is it. That is the key. That is the big issue. Dr. O'Hanlon?

DR. O'HANLON. Senator, I, too, think the A-10 is a pretty good platform, and I would like to see a more integrated cost study. We have this figure that has been used by the Pentagon that there is \$4 billion in O&M savings if you retire the A-10. I think that is based on very specific assumptions, and, of course, it is not accounting for the fact that you are going to have to buy F-35s in order to replace the A-10s if you retire them.

I would buy fewer F-35s and/or attack helicopters in order to be able to keep the A-10, and then it becomes a different cost calculation. So at a minimum we should see that calculation done with a broader set of assumptions because I think the Pentagon is giving a very specific way to do the calculation, which assumes the F-35 Program and the Attack Helicopter Programs are all givens and untouchable, and only then calculates the cost addition from the A10.

Senator ERNST. Okay, thank you. Mr. Martinage?

Mr. MARTINAGE. I tend to agree with my colleagues here on the panel, and I would say I think it is really important to look at it as a mission and, you know, have the AC-130. You have attack helicopters, you have the A-10, you have TacAir, you have bombers that can all perform the mission to varying degrees. I think the A-10 is probably one of the best in the bunch, but I think that we need to look at the cost implications.

And I think this gets to the high/low mix. You know, for the Air Force, they probably need some dedicated low capabilities for doing ISR close air support, strike in low to medium threat environments, and they need a different set of capabilities for high-end anti-access area denial [A2AD] environments. Quite frankly, the F35 does not fit well into either of those.

Senator ERNST. Okay. General, I would like to shift back to you since you brought up the Apache attack helicopter. There is an effort to move the Apaches out of the National Guard. I, of course,

believe that the National Guard needs to retain some of the combat capabilities. We need those pilots to retain hours or keep their hours up. What are your thoughts on moving that strictly to the active duty component?

General DEPTULA. I think the Guard and the Reserve forces in the United States of America are oftentimes overlooked as a key element of our entire defense architecture. I am not specifically familiar with the details of that argument, and so I would leave that to the experts in the Army, Guard, and Reserve as well as active duty. However, I would be a bit suspicious about shifting a particular capability set all into one of the components or the other.

Senator ERNST. Thank you. I am suspicious as well. My time is up, gentlemen. Thank you very much. Thank you, Mr. Chair.

Chairman MCCAIN. Senator HIRONO?

Senator HIRONO. Thank you, Mr. Chairman, and I thank the panel. We note that as we focus on what should be the roles and missions of the armed services that I note that I think all of the panelists said that—indicated that this is not the armed services that we would have if we were creating this body because our military is a product of history.

So, General Deptula, thank you very much for your service. I know you also had a stint in the—in the Pacific, so mahalo for that. I note in your testimony that the biggest challenge our defense establishment faces is one of institutional inertia. If there is institutional inertia, how can we have a serious discussion that leads to changes to the military if there is inertia, as you indicated? How would you go about pushing through this inertia and creating an environment where appropriate changes can happen?

General DEPTULA. Aloha, and thank you for the question, because it is a very, very important one. The first thing that we need to do, in my opinion, in terms of getting at this institutional inertia is, number one, recognizing it and talking about it, which gets to my first recommendation that I made earlier, and that is we need to have a roles and missions commission for the 21st century to deal directly at these issues because, once again, as Senator Inhofe, and the chairman, and Mr. Reed have mentioned, we are faced with this law of large institutions that tends to dumb everything down to a lowest common denominator, and adds lots of time and effort into any decision, which also reduces the proclivity for risk taking.

And it has gotten to be such a risk averse environment across many, many subject areas in the Department of Defense, it is amazing that we make any progress.

Senator HIRONO. Do the other panelists agree that institutional inertia is a huge factor in moving us forward? Yes?

Mr. MCGRATH. Senator, I think another word for “institutional inertia” is “jointness.” Jointness, as I have said earlier, has provided a lot of really good things. Our ability to summon a variety of fires from a variety of services and platforms at the time and place of our choosing is the envy of the world.

But when you enter a process of the making of strategy with one of your first pillars being how the joint force would be used or how the joint force would be—would contribute, rather than thinking about what is it you are trying to do and which elements of this

joint force are most important. Until we get to a point where jointness is not the number one attribute that we look for from our armed services, until we get to that point we will have this sclerosis and this institutional inertia.

Senator HIRONO. I think you mentioned that jointness works when we are actually in a war situation, and it does not work so well when we are planning for a 21st century military.

Mr. MCGRATH. I think it is less successful.

Senator HIRONO. Anyone else want to weigh in, especially on the subject of risk averseness in our military, and that was testified to in one of our earlier panels. Dr. Thomas Mahnken said that we are—the U.S. has grown unused to having to take risks and bear costs.

DR. O'HANLON. Senator, I would—I would personally say that when we get to issues like high-level modernization debates, I think we have a system that works pretty well because we cannot expect the system to make the decisions for us. All we can expect is the system will elevate the important issues to a place where the Armed Services Committee, the Pentagon, the Nation as a whole focuses in on them and the contending arguments.

What I am most concerned about is I think where Senator McCain and Senator Inhofe were speaking earlier, the harder to analyze growth in staff growth and bureaucracy, to me these the parts of the institution and the system that are the most challenging to comprehend and to attack. So, I am less troubled by the high-level roles and missions debates on some of the weapons and more concerned about the growth of the bureaucracy.

Senator HIRONO. Well, I think in connection with that then, as we focus on research and development efforts, and, you know, a large part of that is in the service of combatant commanders. Would you say that the combatant commanders should have much more input into what kind of technologies and resources that they need as opposed to much more of a centralized decision making at the Pentagon level? Anyone?

Mr. MARTINAGE. I would say yes. I mean, I think one of the big ways to get out of the institutional inertia problem is to encourage inter-service competition for key missions, and exactly what those missions are and the priorities of those missions could very much come from the geographical combatant commanders.

But to have real inter-service competition, you have to be able to affect budget share. If you cannot get out of the one-third, one-third, one-third rule, there is no incentive to take risks to try to do something new. So, I mean, I think that is a big part of it.

Senator HIRONO. Thank you.

Chairman MCCAIN. Senator Sullivan?

Senator SULLIVAN. Thank you, Mr. Chairman. Thank you, gentlemen, for your testimony. I think these are really important hearings. I want to commend the chairman for undertaking this important look at the future, what we need to do.

DR. O'HANLON. I really appreciate your comments on Task Force Smith. You know, one of my favorite books that I have in my office I actually suggested to the Secretary of Defense and his team to read is T.R. Fehrenbach's *This Kind of War*, which I think for people thinking about readiness is always a good book to read on the

lack of readiness that we had in the Korean War. As Senator Inhofe mentioned, we seem to get it wrong every time if you are looking historically.

But I do want to amplify for the record on your comments on the Marine Corps. You mentioned effectiveness on Capitol Hill, effectiveness with the American people. You forgot to mention effectiveness on the battlefield, and as you can imagine, those levels of effectiveness are all related.

But I want to talk about the size of the Army, and I know that you have written a lot of—I really appreciate your Wall Street Journal op-ed recently on that. With all due respect to Admiral Roughead, I think the idea of an Army of less than 300,000 is strategic lunacy, and hopefully nobody seriously is contemplating that. I certainly am not. I think it should be about double that size.

General Mark Milley, the chief of staff of the Army, gave a recent speech at the Association of the U.S. Army [AUSA] conference a couple of weeks that I thought was an excellent speech that talked about some of the myths of warfare. One of those myths that he talked about was that armies are easy to regenerate. If you overshoot, cut to 300,000, and then, oh, my gosh, we have got a crisis, that you can, presto, bring back a couple of brigade combat teams and, you know, units that need to be trained.

Can any of you talk about just what that takes in terms of once you cut—once you get rid of a, you know, Brigade Combat Team [BCT]—an airborne BCT, for example, what happens? How long does that take, because obviously he thinks—he puts that out as a myth that it can take years, decades.

DR. O'HANLON. I could start, and I know others will want to weigh in. Thank you, Senator. General Deptula already made the very important point that it takes 20 years to grow a leader of a certain stature.

Senator SULLIVAN. SULLIVAN. Right.

DR. O'HANLON. You can try to distribute the existing stock across a slightly larger force structure, and promote people a little faster, and do a few things around the edges. I would defer to those who have more experience hands on than I have, but I would simply say that the buildup of the last 15 years, once we started growing the force after 9/11, we grew by about 15 percent over about six to eight years. I think that is about as fast I feel that we can empirically say is consistent with maintaining high standards.

So I think 15 percent growth in overall numbers of people, of brigade combat teams, and so forth over a six- to eight-year period, that is a pretty good set of numbers to keep in mind. Anything faster than that would be unproven, except going back to World War II when we had a much different kind of buildup.

Senator SULLIVAN. Right.

DR. O'HANLON. I think with all great respect to our World War II veterans, you know, some of the concepts in that particular fight were a little different than today's.

Senator SULLIVAN. Sir?

Mr. McGRATH. Senator, I think General Milley was attacking a straw man in that speech. No thoughtful defense analyst thinks it is easy to grow an army. The question ultimately is, is it easier to grow an army, or easier to grow a navy, or easier to grow an air

force in capital intensive services where you have to put investment in year after year in order to maintain a certain size.

It winds up being easier to grow the Army. I think we surged up 80,000 people in the Army in a relatively short term, and a good number of those saw combat. It would be very difficult to imagine a navy growing that fast in that amount of time.

Senator SULLIVAN. Thank you. Let me switch topics a little bit here. The other thing that General Milley, and I know that our committee has been focused on to try do a fair amount in the NDAA this year on it, is focusing on the tooth-to-tail ratio with regard to if we have to make cuts. Again, I am focused more back on the Army, but I would appreciate your views on this more generally, that the last units we should be cutting are the units that are the, you know, direct combat units.

Do you think that as we are looking right now on kind of downsizing in the Army or the other branches that we are getting that tooth-to-tail ratio correct, or—because I certainly think that the last units we should be cutting are the BCTs and the other ground combat units. But are we missing something in terms of getting that ratio correct? Dr. O'Hanlon?

DR. O'HANLON. Senator, I will begin. I do not disagree with you, but I also think that one of the great strengths of the American military is that tail. Now, there are parts of it that are less efficient, and I would—I would agree with the idea of putting 10, 20, 30 percent cuts into some of the headquarters and staff, and then letting the services and other organizations within DOD figure out how to make that happen.

So I support that because I think there is a lot of waste. But the general notion of tail includes intelligence, includes logistics, transportation, cyber. All these things are crucial to how we fight, and I think our tail is actually just as impressive as our tooth in terms of how we stack up against other countries' militaries, which is part of why I am just generally reluctant to get too far into that conversation because it implies that if you really have tough budget caps, you can cut tails safely or relatively safely. I think we just cut the defense budget enough, and we are going to have to recognize that the tail is important to protect in some cases as well.

Senator SULLIVAN. Thank you. Thank you, Mr. Chair.

Chairman MCCAIN. Senator Shaheen?

Senator SHAHEEN. Thank you, Mr. Chairman. Dr. O'Hanlon, I think I heard you say in your testimony that, and I agreed as you went through the history of how we, you know, fought in Vietnam based on a false set of assessments and based on what we learned from previous wars, and dismantling after those wars. But I think what I heard you say is that it took us several years to be ready now for the wars of this century. Do you think we are ready for the fight against Islamic State in Iraq and Syria [ISIS] and for the potential threat from Russia, and Iran, and China that we might face?

DR. O'HANLON. Senator Shaheen, thanks for the great question. No, I do not think we have a good concept of how to deal with Syria partly because the political mess is so huge. I mean, what kind of solution are we really after at a higher level of political—I have argued for a confederal model of Syria. Trying to negotiate a new suc-

cessor government to Assad just is not going to work, and if we begin with that political framework, we are bound to fail militarily as well. So that is more than just a military challenge. I think it is a broader strategic challenge.

In Asia, I think we are doing better, and I know other panelists who will want to comment on that a swell. But I think the recent moves by the Pacific fleet to operate in the South China Sea, the general concept of the rebalance have been reasonably well thought through. I think we are all still struggling on how to think about Putin, so that is a separate problem, and I am not sure it is fundamentally a DOD problem.

So I think it really depends, but on the—

Senator SHAHEEN. Explain that when you say you do not think it is fundamentally a DOD problem.

DR. O'HANLON. Well, I think that the genesis of this goes into how we have dealt with Russia for 25 years in terms of everything from Nunn-Lugar, to North Atlantic Treaty Organization [NATO] expansion, to many other issues. Now, seeing the arrival of Putin and how he suppressed Russian democracy and otherwise, you know, been a bully in his neighborhood, I am not sure that beginning with the debate about which weapons to give the Ukraine Army, for example, is the essence of the matter. I would rather have a broader debate about the future of European security structures and think about how our strategy follows from that.

So arming the Ukraine military may be part of it, but I think it needs to be in a broader debate that we are not really having. So, again, I do not fault DOD and its tactics and its units for that particular challenge.

Senator SHAHEEN. Yes, Mr. Martinage?

Mr. MARTINAGE. I would like to focus in on your comment about sort of Iran, China, and that sort of section of challenges. In my view, the power projection concept that we developed during the Cold War and demonstrated in Desert War and really refined since then is really fundamentally being called into question. Our adversaries get a vote, and they are developing and fielding capabilities to disrupt our preferred approach to power projection.

The big—the big four in my view are space is no longer a sanctuary against attack; closed-in airbases and ports, which we rely on extensively, are now increasingly vulnerable to attack; service combatants and aircraft carriers are vulnerable to detection at range and attack at range; and conventional aircraft are increasingly vulnerable to integrated air defenses. If you look at all that and how we are currently structured and postured in our force, and we have a big and growing problem.

Senator SHAHEEN. Mr. McGrath, I want to—in your written testimony, you talk about the rise of the combatant commanders creating the impression that strategy development is no longer in the purview of the services. This sort of gets to some of the other issues that you all are raising.

Talk a little bit more about that and why you believe that the services should be involved in strategy because my perception is that they have been very involved, if not in the final decisions around strategy, at least in presenting options for what we should be doing. You know, certainly in the war in Iraq, I think General

Petraeus with his surge, which I think there were members of Congress who were involved in those discussions. But I think much of the strategy there was based on what we were hearing from the commanders in the field. So explain what you mean there.

Mr. McGRATH. I think it is important to make a distinction between sort of campaign level military strategy, which is what the surge was, and the making of long-term military strategy to serve the national security strategy. It is in the latter part where the services, in my view—I was the lead author and the team leader of the Navy's 2007 maritime strategy. There was a lot of institutional resistance within the building. What is the Navy doing writing strategy? The strategy is the purview of the Combatant Commanders [CoComs].

And in my twisted view of the world, strategy really ought to be the purview of the service chiefs because they are the ones with the long-term view, whereas the combatant commanders are generally more looking at the threats that are before them, and I think that's what we pay them to do.

So it is that tension between the near term and the long term that I think puts the Service Chiefs in a better position to do that long-term strategic thinking.

Senator SHAHEEN. I am out of time, but does anybody disagree with that?

[No response.]

Senator SHAHEEN. Okay. I just want to ask Dr. O'Hanlon a final question. You raised issues about the QDR. We heard last week from a panelist who said we should get rid of the QDR. Do you agree with that?

Dr. O'HANLON. No, Senator. I think overall even though I do not always enjoy reading them—at this point they have gotten a little dry at times—the discipline of the process is actually useful. Sometimes when they are dry, it is because we have worked towards a consensus as a Nation, which is not all together a bad thing in all cases either.

So, no, I would support it. I think we have got about enough. General Deptula has mentioned the roles and missions commission idea. Maybe that is a good idea. Maybe that is enough, however. I mean, in other words, we should not pile on additional reviews one after another after another. But I think a QDR every four years is probably a pretty solid concept.

Senator SHAHEEN. Thank you.

Chairman MCCAIN. I have found the QDR to be an excellent cure for insomnia myself.

[Laughter.]

Chairman MCCAIN. Senator Cotton?

Senator COTTON. Mr. McGrath, a question about the role of sea power. Over the last 15 years, we have used sea power to project the power onto the land, especially air power. Still doing that to this day in the Middle East. Do you think that is the proper or primary role that should be using sea power for, or should we have sea power focused primarily on control of the seas and lines of communication on the seas?

Mr. McGRATH. More of an emphasis on the latter than there is today, but certainly a great emphasis on the former.

Senator COTTON. Okay. Could you say more about that?

Mr. McGRATH. Sure. We live thousands of miles from our security interests. Sea power is ultimately probably going to be the most effective way to bring mass quantities of power to bear quickly when situations are likely to still be in the time where they can be controlled, escalated and de-escalated.

It is hard to get the amount of power flown there from Continental United States [CONUS] that we would need in that kind of a role, so we have to be able to project power in the early stages of conflicts. But when it comes time to bring the big hurt, that is really I think an Air Force mission.

Senator COTTON. Would you say the same thing about the Marine Corps and extended land warfare?

Mr. McGRATH. I would say the Marine Corps should—I was just talking to Bob Martinage this morning about this. The Marine Corps really ought not be in the counterinsurgency business and the wide area of security business. They ought to be in the crisis management business, but there is a lot of business in the crisis management business.

Senator COTTON. Anybody care to respond to Mr. McGrath's comments on those two points? Dr. O'Hanlon got his hand up first.

DR. O'HANLON. Sorry. I will be brief. Senator Cotton, I think the Marines helped us a lot in the counterinsurgency campaigns of the last 15 years. So, while it may nice to have them prioritize the missions that focus on expeditionary warfare, I think we need to have them also as a potential counterinsurgency force.

Senator COTTON. General Deptula?

General DEPTULA. Listen, having 4.3 sovereign square acres of U.S. territory that could be moved around the world where and when we need it is an absolutely necessary force structure requirement of the United States military. The question becomes how many in the context of force structure. That decision and discussion needs to also be informed by the fact that sea-based air power is about 10 times more resource costly than land-based air power. I am not talking Air Force versus Navy here because I am including the Marines as part of that land-based calculation. So it is just something that needs to be taken into consideration.

So if you take a look at the initial stages of Operation Inherent Resolve, you were flying F/A-18E/Fs with two 500-pound bombs 1,200 miles to deliver and come home when on B-1 could essentially accomplish the equivalent of 40 F/A-18E/F sorties.

Chairman MCCAIN. I would point out that without the use of Incirlik, we did not have many other options.

Mr. MARTINAGE. I would just say, along with what Bryan said, I think sea control is essential. It is a key enabler for the Joint Force. But ultimately, we want to be able to project from the sea against land targets.

Senator COTTON. Okay.

Mr. MARTINAGE. The challenge there is I think we need to rethink the future of the Carrier Air Wing. In particular, we need the longer range and more survivability off the carrier deck.

Senator COTTON. General Deptula, I would like to shift to our nuclear forces. Given China and Russia's modernization of their nuclear forces as well as delivery vehicles and space systems, do

you think our nuclear forces are properly postured to appropriately deter aggression from those countries?

General DEPTULA. The overarching general response would be yes, particularly in the context of the viability of our triad. However, we cannot neglect attention to modernizing our nuclear forces. Quite frankly, adversary or potential adversary nuclear forces are the only forces that currently pose an existential threat to the United States, so that needs to be priority one.

Senator COTTON. Anyone else have comments on our nuclear forces? Mr. McGrath?

Mr. MCGRATH. I want to associate myself with something Dr. O'Hanlon said earlier, which was his concern—and I do not want to misquote you here—his concern for the degree to which the Navy's recapitalization of its strategic deterrent could potentially impact its ability to continue to provide the force necessary as the conventional deterrence force. That concerns me greatly.

I think that is the U.S. Navy's primary close to unique contribution to our national defense, and that is day-to-day conventional deterrence around the world. If that is impacted, I think that is a dangerous thing.

Senator COTTON. So you worry that they are prioritizing the strategic deterrent over conventional deterrent?

Mr. MCGRATH. I am certain that they are, yes.

Senator COTTON. No, as am I. That worries you.

Mr. MCGRATH. Oh, okay. I am sorry. Yes, sir, they are.

Senator COTTON. Okay.

Mr. MARTINAGE. The only thing I would say about that is when we come down on the number of the delivery vehicles and nuclear warheads, the coin of the realm becomes the survivability of that assured deterrent. Nothing is as good as the ballistic missile submarine [SSBN], period, stop.

Senator COTTON. My time has expired.

Chairman MCCAIN. Senator Donnelly?

Senator DONNELLY. Thank you, Mr. Chairman, and thanks to all of you for being here. General Deptula, in your testimony you wrote in regards to the three legs of the triad, you affirmed the importance of it, in maintaining an effective nuclear deterrent, and I completely agree. What I am interested in is hearing some of your additional thoughts. In your testimony you wrote, "A dollar spent on duplicative capability comes at the expense of essential capacity or capability elsewhere."

Do you believe we can achieve savings by pursuing common components and systems among the Services for nuclear modernization efforts?

General DEPTULA. Senator, I am not an expert in that particular area, but in general as you posed the question, my answer would be yes.

Senator DONNELLY. Okay. I would love to hear the insights of anybody else on the panel. Mr. McGrath, I know you talk about jointness as a—as a strategy it is not always the greatest thing. How about jointness in common components and similar things?

Mr. MCGRATH. I think if we were able to create a missile that was nearly identical for the SSBN and for silos, I think that would be a wonderful thing. I do not know how likely that it is. I just

want to quickly say that my fear is not—I am not trying to say that we should not do the SSBN. What I am trying to say is we cannot let building the SSBN keep us from having the level of conventional Navy that we need to do its job.

DR. O'HANLON. I will pile on the SSBN issue for just a second, if you do not mind, and this is in the spirit of—I do not want to associate you with this, Senator. But you mentioned the \$13 billion aircraft carrier. I am troubled by the \$6 billion *Ohio*-class replacement. I do not know why it has to cost \$6 billion. I know why it is going to cost more than the *Ohio*-class, and there are some inefficiencies, and times have changed.

The *Ohio*-class, I think, is quite survivable. It is just getting old. To be honest with you, just conceptually I would be happy with something that looked like the *Ohio*-class for the future, new *Ohio*-class subs. I realize we cannot really do that because we have lost some shipyard capabilities and so forth. But I am still not quite sure why the SSBN successor has to cost more than twice as much per vessel. I think some scrutiny on that would be—would be advisable for all of us.

Mr. MARTINAGE. I do not want to get too far down in the weeds on the—on the common components on the nuclear side, but in terms of warhead designs, having some inefficiency and redundancy is probably good so if there is this failure, technical failure, in any one of the different warhead designs, it does not compromise our strategic deterrence. So sometimes you have got to balance, you know, the efficiency.

Senator DONNELLY. Let me ask you this. As we look at dollar challenges and budget challenges, and I would love to hear from all of you, each one, one after the other, your best idea for reduction in bureaucratic growth. You know, if you had one main point on that, what would you tell us this is what you have to go after? General, I do not know if you want to start first, but you are the Lieutenant General in the group, so.

General DEPTULA. Sure, I will go first. Once again, we have 18 defense agencies. We have 10 DOD field activities. That is the first place I would start looking to cut in terms of increasing and freeing up resources. Then the next place I would look is I would look at the staffs, both OSD and Joint Staff. Then I would look at the service headquarters staff.

Senator DONNELLY. Mr. McGrath?

Mr. MCGRATH. Defense agencies.

DR. O'HANLON. I agree with the idea of a 10 or 20 percent arbitrary cut. Usually that kind of policymaking strikes me as a punt, and I am frustrated as an analyst when that is all I can recommend, but staffs have grown so much. I think simply imposing some degree of percentage reduction over a period of time—

Senator DONNELLY. Having them figure out—

DR. O'HANLON. Exactly. Then I also am a supporter of another round of base closures. I recognize a lot of the objections this committee and others have had to the specifics of how we did it in 2005. I share some of those critiques. But I think we are going to have to get to it at some point as well.

Mr. MARTINAGE. I agree with the rest of the panel. Defense agencies, then OSD and Joint staff, and just looking broadly at contractor support across the Department.

Senator DONNELLY. Thank you very much. Thank you, Mr. Chairman.

Chairman MCCAIN. Thank you. I am sure our witnesses are aware that in the defense bill, which hopefully—which just passed the House in the—has a seven and a half percent across-the-board required cut for four years in staffs. It has been pointed out that former Secretary Gates mandated a cut in staffs as well, which never really happened. They just shifted people around.

It is also hard to get a handle on it when you don't know how many people are working there. For 15 years now we have been trying to get an audit of the Pentagon. It is my desire, and I was just recently out in Silicon Valley to see if they can come up with a way since obviously internally we have been unable to achieve that.

We did even get to the issue sequestration, and the—not only the damaging that it does to our defense funding, but to the ability of the men and women to plan, to operate, to know, to have some certainty. I do not know how we can have a QDR if we are lurching from one year to another and nobody knows what the level of funding is going to be. Of that course, that responsibility lies in a bipartisan effort in Congress and the President of the United States.

So these are very interesting and difficult times, and almost every day brings a new challenge, the disappearance of an airliner over Egypt just being the latest. So we need your thinking and experience and knowledge very badly. We do not pretend to know all the answers, but we are going to make it our—reform our highest priority for the coming year.

There are some very important beginnings, such as reform of the retirement system which is fundamental, as you know, and many others. But we have a long way to go, and your testimony has been very helpful to all members, and I thank you very much. Jack?

Senator REED. Mr. Chairman, let me thank you for bringing together these experts, and let me thank the witnesses for extraordinary insights, and thank you for your service to the Nation in so many other ways. So, Mr. Chairman, thank you.

[Whereupon, at 11:15 a.m., the hearing was adjourned.]

