



# A More Agile Pentagon

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PHOTO: A prototype of the Expeditionary Fighting Vehicle, planned for fielding to the United States Marine Corps in 2015. (United States Marine Corps)

**F**ORMER SECRETARY OF Defense Robert Gates departed office this year leaving behind a transformed Pentagon. Even before the latest round of budget cuts, he eliminated more than \$450 billion of overhead, unneeded staffs, and underperforming programs, including the DDG-1000 destroyer, the VH-71 Presidential Helicopter, Future Combat Systems, the Multiple Kill Vehicle, the Airborne Laser, the Non-Line-of-Sight Launch System, and the Expeditionary Fighting Vehicle.<sup>1</sup> Cost overruns and schedule slippages were factors for placing many of these programs in the secretary's crosshairs, but ultimately, most simply were not relevant to today's security environment. They were conceived in the 1980s for a different threat, and as the security environment changed, they failed to change with it. The inflexibility of these programs, ultimately leading to their irrelevance, is a symptom of a broader problem: the Pentagon bureaucracy is not agile enough to adapt to a rapidly changing and uncertain future.

Under Department of Defense (DOD) current acquisition and programming processes, it may take 10 to 20 years to bring a major defense program from concept to initial operational capability, which may then stay in the inventory for another 30 to 50 years. Meanwhile, the security environment the U.S. military faces can change dramatically in only a few years. In 1996, when the Taliban took Afghanistan in a whirlwind of extremism, it was inconceivable that the United States would embark on a decade-long war to stabilize the country just five years later. In 1988, the Soviet Union seemed strong enough to last another 60-plus years, yet just five years later, the United States was taking a 20 percent peace dividend. Even between 2003 and 2008, as the wars U.S. troops were engaged in remained the same, the threats they faced on the ground changed radically, forcing a shift from fast and light "shock and awe" campaigns to heavily armored vehicles and increased troop levels. That

DOD will be able to reliably predict the character of warfare 70 years from now is implausible when the types of threats U.S. troops face overseas change on a month-to-month basis. Yet when DOD invests in a major defense program, such as a next-generation carrier, the United States is making a multi-billion dollar bet that a certain mode of warfare will be dominant half a century from now.

The Department of Defense must become more agile, flexible, and adaptable. In an era of budget austerity, a smaller DOD may not be able to prepare for every possible contingency, placing a premium on agility. Elements of reform include—

- “Good enough” requirements for acceptable performance at an affordable cost and within a realistic timeframe to meet warfighter needs.
- Modular designs and incremental upgrades to reduce costs and improve flexibility.
- Flexible programming mechanisms, including rapid acquisition processes and allowing the services to compete for funding and ownership of joint missions.
- Humility about predicting future military needs and the wisdom to terminate irrelevant programs.

## Timing

Agility requires more than just the ability to rapidly develop capabilities or procure off-the-shelf solutions quickly. We must consider when we need a capability and then plan backwards to ensure that we acquire the *best tool in the time available* to do so. The right tool is not helpful if it arrives after the war ends. An 80 percent solution on time is much better than a 100 percent solution late.

Developing and fielding capabilities move on two tracks in DOD, both with relatively rigid timelines. The default track is a deliberate and time-consuming process that can take close to a decade or more to produce an initial operational capability. Taking time to develop the best possible system was prudent when facing an adversary with an inefficient, centrally planned economy who also developed weapons over 10 to 20 years. However, when troops are in continuous engagements with adversaries who can innovate and field new improvised solutions within weeks or days, delays cost lives and threaten the success of the mission.

Accordingly, DOD has a host of rapid acquisition processes to field commercial, off-the-shelf technologies to meet urgent wartime needs. By one count, 20 such rapid acquisition mechanisms exist.<sup>2</sup> When the current wars wind down, we should consolidate these processes and institutionalize them so the nation has the ability to respond to urgent needs in the future, including flexible reprogramming of funds within the same fiscal year without congressional approval.

The DOD’s longer-term, deliberate process could also benefit from some reform. We must consider costs up front and ruthlessly balance them against requirements to determine what is “nice to have” and what is truly essential. Too often, DOD has pursued next-generation systems based on a desire to push the limits of technology rather than a realistic appraisal of future needs, balanced against costs. This has led to “requirements creep” and impressive, but overpriced, overly sophisticated “baroque” systems that are overkill for the most likely threats the military will face.<sup>3</sup> Deputy Defense Secretary Ashton Carter, while serving as under secretary of defense for acquisitions, placed a renewed emphasis on affordability, including it as a key performance parameter for all major defense programs.

A gap currently exists between DOD’s immediate-term (up to 24 months) rapid acquisition processes and longer-term (10 to 20 year) deliberate development timeline. If a solution is required in a timely fashion but one is not immediately available within 24 months, DOD currently lacks an institutional path for fielding systems in the near-term (2 to 9 years). Developing systems along this near-term track requires settling for an 80 percent solution in a timeframe that is relevant to the warfighter, rather than waiting for a 100 percent solution. Under Secretary Carter directed precisely such an approach with the Army’s new ground combat vehicle.<sup>4</sup> In some cases, DOD may need to waive deliberate acquisitions processes to reduce waste, but add additional steps that take time. We must weigh the risk of rushing a solution to the field against the risk that the warfighter goes without any capability at all. Strengthening the role of the combatant commanders in the requirements process could improve the assessment of these risks.



## Flexibility

Other important factors in improving agility are—

- Flexibility through modular design.
- Diversity and hedging.
- Changes to the way the DOD resources joint missions.

Modular design with incremental upgrades is an essential tool for helping systems stay abreast of the latest technology and save money by reducing risk. Modular and open architecture design allows us to modify systems during their lifetimes, and is worth a marginal additional cost early on. The DOD has a proven record of accomplishment using modular design to improve flexibility and increase savings over the long run.

The Joint Direct Attack Munition is an example of a relatively low-cost modification to an existing “dumb bomb” that brought it into the information age as an affordable precision-guided munition. The Navy’s vertical launching system tubes allow surface ships and submarines to be equipped with upgraded missiles of standard sizes without having to modify the vessel. The avionics and radars of fighter aircraft

are regularly improved in “blocks”; the F-16 program has had 27 block upgrades since its inception in 1979.<sup>5</sup> Modularity allows the incorporation of new technology at an affordable cost and should be employed in future systems, like the new bomber.<sup>6</sup> Modular design with regular, incremental upgrades can help the U.S. military keep systems relevant and save money.<sup>7</sup>

We can also gain flexibility through a deliberate strategy of diversity, hedging, and leaving options open to pursue future development.<sup>8</sup> Unlike during the Cold War, when U.S. force planning focused overwhelmingly on a single adversary, the U.S. military today is in the difficult position of having to defend against a wide array of possible threats and actors. Potential adversaries of the United States look for weaknesses in U.S. systems and asymmetric vulnerabilities they can exploit. Sometimes these weaknesses can have strategic impact, such as the vulnerabilities of thin-skinned Humvees to improvised explosive devices (IEDs). The DOD can hedge against a weakness in any one system by pursuing a range of diverse solutions. The United States should have multiple means of projecting power in any given domain and



Former Brigadier General William “Billy” Mitchell (standing) at his court-martial, Washington, DC, 1925. Demoted to Colonel, Mitchell antagonized Pentagon officials by, among other things, demonstrating that an airplane could sink a battleship with a single bomb, threatening the core legacy of the Navy.

(U.S. Air Force photo)

deliberately pursue a strategy of diversification to hedge against potential vulnerabilities.<sup>9</sup>

Changes to the way DOD allocates responsibility for joint missions could also improve flexibility. The military services too often view joint tasks that do not clearly fall to one service but which multiple services could complete as simply additional bills to pay. There is little structural incentive for taking on missions seen as detracting from resources available for a service's "core" missions. Examples include airborne intelligence, surveillance, and reconnaissance to support ground troops or defense of air bases against air and missile attack. Changes to the way DOD allocates resources for these missions could reverse the current dynamic. Rather than task them to one service, DOD could allow the military services to compete in offering up solutions with the winning service receiving the mission and the necessary resources to accomplish it. The result would be to create an incentive structure where military services as "force providers" actually compete for missions and the best solutions (both in terms of effectiveness and in terms of cost) are rewarded.<sup>10</sup>

## Humility

A bureaucracy that designs programs based around the need for them, sets realistic "good enough" program requirements, and uses modular design and diversified investment strategies will still occasionally be too slow or too inflexible to adapt to a rapidly changing world. The United States will still find itself, as it has at the start of all its wars, in conflicts for which its equipment, platforms, or weapons are less than optimal. In these circumstances, DOD military and civilian leaders must have the humility to acknowledge that some programs may no longer be relevant and need to be canceled. Structural and cultural factors in Congress, the defense industry, and within military and DOD civilian leadership can generate powerful forms of inertia toward continuing existing programs. Changing course often requires strong military and civilian leadership.

Constituencies in Congress and the defense industry may benefit from continued production, even without a sound strategic rationale for it, making it difficult to downsize or cancel established programs without direct intervention by a secretary willing to take on members of Congress. In some

of the most egregious examples, Secretary Gates tussled with Congress repeatedly over the F-35 Joint Strike Fighter alternate engine and the C-17 cargo aircraft.<sup>11</sup> He threatened a veto if Congress funded either of them.<sup>12</sup>

Within the military services, structural and cultural factors may hamper flexibility. Existing programs have constituents in the form of program managers, whose jobs depend on the program in question, while new programs lack built-in institutional support. Thus, the military may be sometimes biased toward the status quo in terms of continuing existing programs. However, more challenging are cultural predilections for waging warfare in a certain manner. This is particularly the case when innovations challenge fundamental notions of how to achieve military victory in a particular domain. Each military service has its own culture and its own view of warfare in its respective domain. Developed over decades of experience, the views of senior service leaders, as well as their civilian counterparts, can be extraordinarily resistant to change, even in the face of glaring evidence that warfare is evolving. Military historian John Keegan writes, "Culture is as powerful a force as politics in the choice of military means, and often more likely to prevail than political or military logic."<sup>13</sup>

Examples of cultural obstinacy in the face of innovation abound in military lore. The Navy initially resisted steam-powered ships. Elements of the Army only reluctantly traded in horses for motorized vehicles before World War II. The Army's ignominious treatment of early air power innovator Billy Mitchell is legendary. Once in battle, U.S. service members have a tremendous record of adaptability at the tactical edge, but military institutions and bureaucracies are slower to change, especially if the change required is not merely tactical but actually foundational to the institution's view of warfare. The Army, for example, increased personal and vehicular protective armor relatively quickly in response to new threats in Iraq and Afghanistan. These tactical changes did not require altering the strategic paradigm for ground combat. The Army's institutional adoption of counterinsurgency doctrine, which required fundamentally adjusting the Army's paradigm for ground warfare, took longer.<sup>14</sup>

Similarly, the Army's Future Combat Systems (FCS) fleet of fast, thin-skinned vehicles con-



(PFC DANIEL KLEIN, USMC)

**U.S. Marine Corps SGT Ken Blankenship, explosive ordnance disposal technician, sets up a Remote Ordnance Neutralization System robot during a force protection exercise being conducted at Camp Smedley D. Butler, Okinawa, Japan.**

tinued in development until 2008, long after the proliferation of IEDs in current conflicts doomed the vehicles to irrelevance. When the axe finally came down, it came down from Gates, not from Army leaders. The Marine Corps' Expeditionary Fighting Vehicle (EFV) also faced problems from cost overruns, vulnerability to IEDs on land, and over-the-horizon targeting capabilities for anti-ship missiles, which would have pushed EFV-carrying ships further from shore. These problems were well known before Gates eliminated the program in 2011. Both Future Combat Systems and the Expeditionary Fighting Vehicle continued for so long in the face of glaring conceptual problems because they were central not only to each service's respective modernization initiatives, but also to their very identity—the Army as an armored maneuver force, and the Marines as an amphibious assault force. Both ultimately required the secretary's personal intervention to cancel them.

Civilian defense leaders are equally susceptible to the pitfalls of developing biases toward

waging war in a certain manner, sometimes in spite of abundant real-world evidence that suggests we cannot box our adversaries into fighting in a manner advantageous to the United States. Before Secretary Gates canceled FCS, the previous defense secretary, Donald Rumsfeld, strongly championed "transformational" next-generation weapons programs including the FCS despite their lack of suitability for ongoing conflicts. When the Army continued FCS in spite of developments in Iraq and Afghanistan that should have thrown the program into doubt, its actions were consistent with Secretary Rumsfeld's intent.

## **An Uncertain Future**

Defense leaders must always be on guard for changes in the security environment that cast current concepts of operation into doubt. A U.S. military that so clearly dominates in traditional categories is constantly at risk from innovative opponents who can find its Achilles' heel. The IED did this in Iraq and Afghanistan, but a host of innovations may compete



for that title in future conflicts. Each military service potentially faces significant challenges in the future that cut to the very core of its present identity.

Long-range, anti-ship ballistic missiles threaten the utility of large, expensive supercarriers, which have been the central organizing premise for naval power projection for the past 70 years. The Navy must ask if it makes sense to pursue investing more than \$100 billion in a new fleet of supercarriers when adversaries are developing long-range anti-ship ballistic missiles that could push these carriers out beyond the effective range of their aircraft. Power projection from survivable submarines underwater or more dispersed concepts of surface operation may be a better use of defense dollars or at least help to diversify maritime power projection.

Similarly, the proliferation of long-range ballistic missiles that threaten air bases cuts to the heart of the Air Force's identity as a service dominated by fighter pilots. Short-range fighters lack the range necessary to effectively project power from bases in sanctuary, driving the need for long-range strike aircraft, which Gates directed the Air Force to develop. The Air Force has also been challenged by technology that removes pilots from aircraft and will eventually remove humans from the direct stick-and-rudder control of airplanes altogether. This trend will undoubtedly continue and expand to other missions and domains, challenging the culture of all the military services as warriors face the prospect of waging conflict remotely, removed from harms' way.

While retaining the hard-won lessons learned from today's wars, the Army and Marine Corps must

prepare for future wars that may take many forms, including so-called "hybrid" conflicts against non-state actors possessing sophisticated weaponry, such as precision anti-tank missiles and man-portable air defense systems, hiding among civilian populations. The Army and Marine Corps must be ready to seize contested terrain, stabilize key populations, and train local security forces. They may be called upon to secure loose weapons of mass destruction or counter their proliferation. Performing these tasks will require flexibility, diversification of assets, and the humility to admit that, at best, we can only hope to get the business of predicting the character of future wars partly right.

## Conclusion

The Department of Defense must become more agile. The world will not slow to the pace of the sclerotic Pentagon bureaucracy. Unable to compete with the U.S. military head-to-head, even sophisticated nation-state adversaries will find ways to undermine U.S. superiority by attacking through asymmetric means. The types of enemies the U.S. may confront 5, 10, or 15 years from now—to say nothing of 50 or 70 years from now—may not be foreseeable today. If the military is to remain relevant in future conflicts, DOD must move faster and be more flexible. Requirements should focus on what we can achieve at a realistic cost within an acceptable timeframe. Programs should incorporate modular design and incremental upgrades over time. Leaders must constantly be on guard for changes in the character of warfare that require shifts in concepts of operation. Protecting the nation will require adapting—and adapting again and again. **MR**

## NOTES

1. Secretary of Defense Donald Rumsfeld canceled the Comanche helicopter and Crusader artillery system, both of which were plagued with irrelevance in the changing security environment.

2. Defense Science Board, "Fulfillment of Urgent Operational Needs" (July 2009), available at <<http://www.acq.osd.mil/dsb/reports/ADA503382.pdf>> (1 March 2011).

3. Robert Gates, "A Balanced Strategy," *Foreign Affairs* (January/February 2009), available at <<http://www.foreignaffairs.com/articles/63717/robert-m-gates/a-balanced-strategy>> (22 May 2011).

4. John T. Bennet, "Carter gets tough on ground combat vehicle specs," *Defense News* (15 September 2010), available at <<http://www.defensenews.com/story.php?id=4780521>> (22 May 2011).

5. See "F-16 versions," *F-16.net*, available at <[http://www.f-16.net/f-16\\_versions.html](http://www.f-16.net/f-16_versions.html)> (22 May 2011).

6. The Chairman of the Defense Science Board, Paul Kaminsky, has advocated a block upgrade approach to the Department of Defense's (DOD's) new long-range bomber program. See John Reed, "DSB chief: block buys best for bombers," *DOD Buzz* (9 February 2011), available at <<http://www.dodbuzz.com/2011/02/09/dsb-chief-block-buys-best-for-bombers/>>.

7. For more on these strategies, see Defense Science Board, *Enhancing Adaptability of U.S. Military Forces*, DOD (January 2011), 33-39, available at <<http://www.acq.osd.mil/dsb/reports/EnhancingAdaptabilityOfUSMilitaryForcesA.pdf>> (1 March 2011).

8. In fact, the 2010 *Quadrennial Defense Review* (QDR) exercised precisely this strategy with respect to the long-range bomber project. The QDR deferred a decision on production until an extensive study of long-range strike options was completed, while leaving the option open to begin a new bomber later. Secretary Gates exercised this option a year later when he announced a decision to start a new bomber program in the Fiscal Year 2012 budget.

9. P.W. Singer, "How the U.S. Military Can Win the Robotics Revolution," *Popular Mechanics* (13 May 2010), available at <<http://www.popularmechanics.com/technology/military/robots/how-to-win-robot-military-revolution>> (22 May 2011).

10. Dr. Scott Maley, personal correspondence.

11. Robert Gates, Statement on Department Budget and Efficiencies (6 January 2011), available at <<http://www.defense.gov/speeches/speech.aspx?speechid=1527>> (22 May 2011).

12. John T. Bennet, "Gates: veto needed if C-17, 2nd JSF engine funded," *Defense News* (24 March 2010), available at <<http://www.defensenews.com/story.php?id=4552496>> (22 May 2011).

13. John Keegan, *A History of Warfare* (New York: Alfred A. Knopf, 1993) 39.

14. While many individual commanders had already been employing COIN tactics since the beginnings of the Iraq insurgency in 2003, updated COIN concepts were not formally reified in Army doctrine until mid-2006. See Headquarters Department of the Army, Field Manual 3-24, *Counterinsurgency* (Washington, DC: U.S. Government Printing Office [GPO], 2006).