Creating Comparative Advantage

Rethinking combat development in a 21st century world

by Col Daniel T. Canfield

We need every Marine and Sailor to seek creative solutions to today's and tomorrow's complex problems. We need your ideas and your critical thinking. We need to change where it makes sense, adapt as quickly as possible, and constantly innovate to stay ahead of our adversaries. Our ability to adapt more quickly than our enemies will be vital to our future success.[1]

—Gen Robert B. Neller,
Commandant of the Marine Corps

Military organizations that fail to anticipate or, at the very least, keep pace with the rapidity of technological change in an Internet-accelerated world where "game changing" COTS (commercial-off-the-shelf) technology can be developed, adapted for military use, and rapidly proliferated will find themselves at a competitive disadvantage on a globally connected, increasingly dispersed, and increasingly lethal 21st century battlefield. Perhaps no clearer manifestation of this trend is the growing propensity for relatively small formations to employ a combination of intelligence, information systems, and firepower with increasing precision and lethality. Our current and future battles will not be won by technicians conducting processing, exploitation, and dissemination, nor by signals intelligence, cyber operations, or flying drones from the relative comfort of a combat operations center far removed from the harsh realities of close combat. Rather, these critical enabling capabilities, and the Marines who perform them, must be integrated into our most forward fighting formations—at increasingly lower echelons of command—by those who actually lead and employ them in the face of a shrewd and determined enemy fighting among his own people and empowered with increasingly sophisticated technical capabilities.

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The recent publication of *The Marine Corps Operating Concept*: *How an Expeditionary Force Operates in the 21st Century* reminds us that the world and the character of warfare continue to change. While developing technological solutions uninformed by the enduring nature of war or devoid of the leadership, training, and doctrine to employ them is certainly not the answer, continuing to maintain the status quo when it comes to how we equip our forces seems equally out of place in a 21st century world. This article describes an alternate approach to combat development. It argues that the Marine Corps' traditional top-down, concept-based, capability development processes must be augmented and, when appropriate, integrated with a more responsive, user-driven system that accelerates the identification, rapid fielding, and evaluation of a small number of carefully selected COTS systems. We need to develop and formalize an institutional ability to "buy, try, and decide" or "acquire to require" promising Acquisition Category level III and below capabilities in support of today's warfighter that can also be used to facilitate the writing of future requirements, inform enterprise-level investments, and help accelerate the acquisition process across the Joint Force.

The Future Operating Environment is Already Here

In their seminal work on innovation, Williamson Murray and Allan Mil-

lett examine "the problems involved in doctrinal, technological, and weapons innovation in a period of severe budget constraint and revolutionary technological change."[2] Murray, citing the earlier observations of Nikolai V. Ogarkov, Marshal of the Soviet Union, and Andrew W. Marshall, advanced the "hypothesis" that rapid improvement in "microelectronics, information technologies and software, satellite communications, advanced sensors, and low observable technologies all suggest extraordinary new capabilities."[3] He further opined that, in many ways, it is "not hard to see certain prospective parallels between our current situation [1996] and the combined-system revolutions of the 1918–1939 period."[4] While this article has no intention of rekindling the RMA (revolution in military affairs) debate spawned in the wake of the first Gulf War, our recent operational history combined with the clairvoyance of hindsight appears to confirm the prescience of Murray's observations and also suggests an important corollary: the distribution of precision and lethality to increasingly lower echelons of command, largely made possible by technological change inherent in the transition from the industrial to the Information Age, will likely continue unabated for the foreseeable future. If history is any guide, we are in the middle innings of this *evolutionary* process. The change it inevitably spawns across the entire DOTMLPF-P (doctrine, organization, training, materiel, leadership, personnel, facilities-policy) continuum will be messy, at times controversial, and almost certainly nonlinear. It will also result in significant comparative advantage for the nations and military organizations (state or non-state) that can most effectively anticipate, adapt to, and implement purposeful institutional change informed by sound military judgment and a pragmatic understanding of the FOE (future operating environment).[5]

Before 9/11, our Nation's premier SOF (Special Operations Forces) primarily focused its attention on conducting actions on an objective with both the target location and the majority of the supporting intelligence provided to them. The reality of a post-9/11 world shattered that paradigm and forced rapid, some would even say revolutionary, change in the intelligence and targeting cycles, requiring more robust ops-intel integration and a collaborative, network-based approach to command and control.[6] Today, most senior leaders within USSOCOM credit the development and refinement of the F3EAD (find, fix, finish, exploit, analyze, and disseminate) cycle as the key to generating the requisite speed of action and operational tempo necessary to identify, attack, and ultimately dismantle resourceful and dynamic enemy threat networks. None of this should be new or foreign to Marines whose warfighting philosophy

> seeks to shatter the enemy's cohesion through a variety of rapid, focused, and unexpected actions which create a turbulent and rapidly deteriorating situation with which the enemy cannot cope.[7]

What tends to go unnoticed, however, is the crucial role the rapid adaptation of COTS technology continues to play in the enterprise's ability to innovate "in contact" or otherwise enhance the requisite capabilities to execute the F3EAD cycle with increasing speed, precision, and lethality.

While the current DOD "four-plus-one" model represents a useful framework to inform our planning, capability development, and assessment of operational and strategic risk, we probably can't afford—nor can we risk—trying to develop an array of exquisite capabilities specifically designed to counter individual threats.[8] Rather, we need to build a "golf bag" of complementary

The Marine Corps has combat-tested SUAS, and MARSOC continues to work with the Service on other COTS combat development issues. *(Photo by Sgt Bobby J. Yarborough.)*

and rapidly adaptable capabilities that are not so much geared toward who we fight, but rather toward who our potential adversaries will fight. Of course, this is easier said than done and requires hard decisions based on risk, fiscal constraints, and the larger trends in the FOE. It also requires a change in mindset and recognition that the current POM (program objective memorandum) that resources and, in many ways, determines our collective institutional future is a five-year plan executed two years from now.[9] Because we can't know the future or the disruptive technologies that will emerge within the FYDP (future years defense plan), it is more important than ever that we augment traditional combat development processes with a flexible COTS-based system that helps us react and adapt faster in an uncertain and unpredictable world, buys down risk, and preserves institutional buying power by leveraging other people's time and money to field "affordable '70%' solutions now [rather than] outdated [and more expensive] solutions 10 years from now."[10]

Leverage MARSOC

In April 2015, the Joint Staff published *SOF-CF I³* (*Special Operations-Conventional Forces Integration, Interoperability, and Interdependence*). The study concluded that the joint force developed an "unprecedented" level of *SOF-CF I³* over the last decade but had yet to formally codify and institutionalize the concept across the DOTMLPF-P spectrum. While acknowledging that maintaining the current level of cooperation between SOF and the rest of the joint force requires persistent effort in the face of competing requirements for personnel, time, and funding, the report, nevertheless, recommended a series of straightforward actions that the Services and USSOCOM should immediately undertake to do so.[11] Notably absent, however, was any reference to capability development. This omission seems particularly glaring in light of the fact that the Services and USSOCOM share many science and technology, equipment, and capability development equities and interests. Admittedly, a strict apples-to-apples comparison between the Marine Corps and USSOCOM would be impracticable, but the similarities between the two organizations' commitment to innovation, warfighting cultures, and complementary nature of their respective roles and missions on America's most-likely future battlefields are striking and simply too important to ignore.

As both the Service component to USSOCOM and a Marine force, MARSOC plays an important role in facilitating capability development in support of USMC-SOF interoperability and integration. MARSOC, in close coordination with MCCDC CD&I (Combat Development & Integration) and Marine Corps Systems Command, can serve as a vanguard for innovation, particularly for the GCE, by identifying, prototyping, and facilitating N2T (national-to-theater) and T2S (theater-to-Service) transition of certain Major Force Program-11 material solutions and capabilities. This approach, if done correctly, leverages USSOCOM research, development, testing, evaluation expertise, and resourcing to bring a mature, combat-tested capability to the Service at the right time and the right place. It also drives down costs by creating contracting efficiencies and economies of scale, enhances interoperability, and contributes to a more efficient use of time and resources across the joint force.

Although not originally designed, structured, or envisioned to do so, another way MARSOC contributes to the Marine Corps combat development efforts is in the area of experimentation and the rapid fielding of COTS systems. Because Marine special operations forces remain continuously deployed and continuously engaged in three separate geographic combatant commands, they have the ability to generate UUNSs (urgent universal need statements) or combat mission need statements in support of active combat operations. UUNSs are not "bills" placed on the institution—they are, in reality, user-driven feedback to the *MCEIP* (*Marine Corps Enterprise Integration Plan*) and should be viewed as opportunities in much the same we think about fire support (i.e., top-down planning executed with bottom-up refinement). If thoughtfully crafted and informed by a larger view of the FOE and the MCEIP, UUNSs allow the Service to move quickly to address immediate operational requirements and longer-term capability gaps not resourced in the POM using an existing material solution—vice trying to create a new POR (program of record) from the ground up using traditional and time-consuming "big acquisition" methods that, in some cases, have no chance of keeping pace with the accelerating rate of technological change inherent in an increasingly networked and globally integrated world. In this way, procuring limited quantities of select capabilities for immediate combat employment and evaluation by MARSOC, fed back to the combat developer, can be a powerful tool to help the Service innovate across the entire force.

An Abbreviated Case Study in User-Driven Combat Development

The Marine Corps' current SUAS (small unmanned aircraft systems) POR provides an example of how MCCDC, CD&I, MARSOC, HQMC, and a program management authority (in this case, Naval Air Systems Command) can "lead turn" technology and affect a theater-to-Service transition that benefits the entire force. In 2011, MARSOC began submitting a series of UUNSs to address significant gaps in airborne intelligence surveillance and reconnaissance coverage for Marine special operations forces deployed in support of Operation Enduring Freedom. Each UUNS was closely coordinated with CD&I to ensure that the COTS SUAS platforms eventually procured for MARSOC would also satisfy the larger Marine Corps' POR threshold and objective requirements. As MARSOC began fielding its new inventory of SUAS starting in 2012, it also developed training and readiness syllabi, programs of instruction, tactics, techniques, and procedures, and doctrinal recommendations for SUAS employment. When the Marine Corps began adopting the same platforms (starting with the RQ-12A Wasp in 2013), many of the DOTMLPF-P requirements to

facilitate the transition, fielding, and eventual deployment of the capability to the rest of the fleet were already in place.

> ***So often times [sic] it happens that we live our lives in chains, and we never even know we have the key.***
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> **—The Eagles, "Already Gone" 1974**

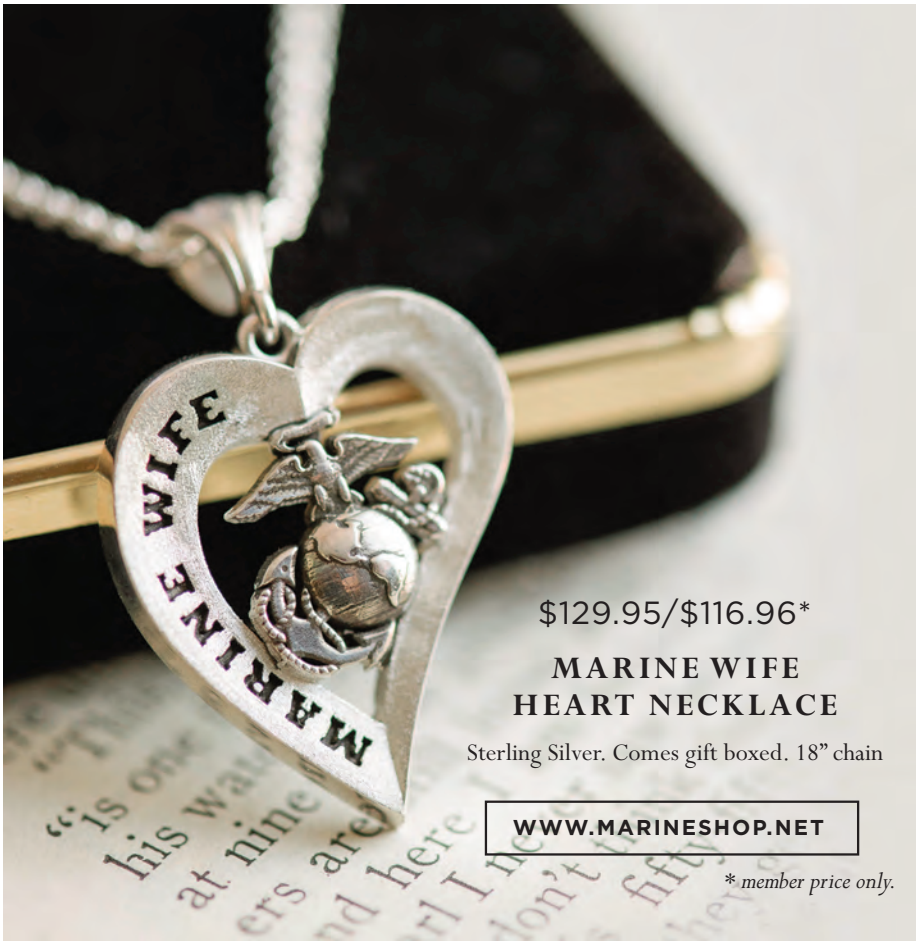
Today, both I and II MEF possess a family of combat-tested SUAS, and MARSOC continues to work closely with the service on a host of other COTS-based combat development initiatives that have immediate applicability to the larger Operating Forces and contribute to the continued distribution of precision and lethality at the battalion, company, and platoon level.[12] As the previous example illustrates, when a MARFOR develops and closely coordinates its current and emerging requirements with MCCDC CD&I and the appropriate program offices, it provides combat developers an important opportunity to have Marines "test drive" and refine a COTS capability in theater, sets conditions for a rapid follow-on adoption by the larger force, and allows the Service to transition a proven COTS capability into a formal POR if and when it decides to do so. This urgent need-to-POR transition process, if done in a thoughtful and responsible way, can shave years off of the normal deliberate needs process and allow the Marine Corps to introduce cutting edge capabilities and build immediate comparative advantage across the force from the bottom up.

Combat Development Authorities, Organization, and Culture

It is important to remember that nobody in the joint force has a corner on the market when it comes to authorities, innovation, or good ideas. Yes, there are truly unique and powerful authorities resident in certain parts of the SOF enterprise, but they are surprisingly few. More to the point, these authorities and the processes that govern them are all nested in the same set of acquisition law and authorities that the Marine Corps and joint force subscribe to.[13] While a detailed overview of these authorities remains significantly beyond the scope of this article, it is enough for us to simply say here that when it comes to prototyping, the rapid acquisition of ACAT level III and below capabilities, and overcoming "the enduring obstacles to leveraging and sustaining commercial-off-the-shelf systems,"[14] the Marine Corps, especially when partnered with MARSOC and USSOCOM, can move as fast—or faster—than anyone in the joint force.

DOD acquisition policy reform remains long overdue, but in the meantime, the challenges and friction points that exist can be mitigated by increasing our collective understanding of the "rules," modifying or streamlining existing process, and seeking prudent, common-sense policy relief if and when required. The establishment of a Marine Corps Rapid Capability Office within the Marine Corps Warfighting Lab, the recent use of rapid acquisition authority, formulation of a GCE ground plan, and CD&I's ongoing partnership with Marine Corps Systems Command to develop and formalize a "user jury" process to inform program management represent important and innovative steps to improve organizational agility and facilitate user-driven combat development. More broadly, however, if we truly want to address the central problem in the *MOC*, we need to think about how we can more efficiently and effectively task organize ourselves to execute resource-informed combat development in a 21st century world.[15]

The Marine Corps possesses tremendous combat development expertise,



adequate authorities, and processes that work, but they are dispersed across several different organizations within the institution.[16] USSOCOM, by contrast, consolidates and delegates considerable authority to manage future capability development, requirements generation and validation, POM planning, and program management to Service component commanders and, in some cases, even delegates acquisition authorities to certain colonel-level commands. Capability development actions are coordinated, not controlled, at the enterprise level by the USSOCOM J-8 (Force Structure, Resources, and Assessment) in close cooperation with the acquisition executive and the generals from the respective Service components, thereby achieving unity of command and a reasonable level of standardization across the force.[17] USSOCOM's combat development culture resembles our own warfighting philosophy whereby the enterprise delegates authority and seeks opportunities to create comparative advantage on a daily basis by managing risk and empowering leaders, at appropriate levels of command, who understand the rules and can execute them faster and more efficiently within the law. In USSOCOM, commanders and operators own this process. Of course, this model is not perfect, nor is it completely applicable to the Marine Corps, but there may be certain parts or attributes of this system that could be adapted or modified to help us move faster and build comparative advantage in a time-competitive, increasingly fast-paced, and interconnected world.

Conclusion

The world and the conduct of warfare are *evolving*. While our traditional emphasis on top-down, concept-based capability development processes served us well in an age of industrialized, near-total war, it may become a liability in a future world where the lines between the rapid militarization of COTS and traditional program management continue to blur. If the Marine Corps seeks to rebuild and maintain its comparative advantage in the 21st century, we will need to continually assess, update, and adapt our combat development process to keep pace with the realities of the contemporary and future operating environments. As the Nation's expeditionary force-in-readiness—one charged with being the most ready when the Nation is least ready—the Marine Corps requires a scalable, adaptable, and flexible combat development process, complete with supporting and sufficiently delegated authorities, that allows our forward-deployed expeditionary forces to innovate, adapt, and win at the speed of combat in a fast-paced and increasingly dangerous strategic environment. Leveraging and formally integrating MARSOC into the Service's ongoing efforts to do so is not only good for the Marine Corps—it is also good for USSOCOM, the joint force, and the Nation.

Notes

1. Headquarters Marine Corps, *The Marine Corps Operating Concept: How an Expeditionary Force Operates in the 21st Century (MOC),* (Washington, DC: September 2016).

2. Allan R. Millett and Williamson Murray, *Military Innovation in the Interwar Period*, (New York: Cambridge University Press, 1996).

3. Ibid.

4. Ibid.

5. In the wake of Desert Storm, some argued that America's technological prowess constituted a RMA (revolution of military affairs). See, for example, ADM William A. Owens, *Lifting the Fog of War*, (New York: John Hopkins University Press, 2000). For an overview of the RMA debate and its effects, see Stephen Biddle, *Military Power*, (Princeton: Princeton University Press, 2004). Biddle argues that force employment (i.e., doctrine and tactics), not technology, is the single greatest factor in determining winners and losers on the battlefield. For a discussion of RMA from a broader historical perspective, see MacGregor Knox and Williamson Murray, ed., *The Dynamics of Military Revolution 1300–2050*, (Cambridge: Cambridge University Press, 2001).

6. Stanley A. McChrystal, *My Share of the Task*, (New York: Portfolio/Penguin, 2013).

7. Headquarters Marine Corps, *MCDP 1, Warfighting*, (Washington, DC: June 1997).

8. Jim Garamone, "Dunford: Global Security Environment Has Implications for Joint Force," *Defense* News, (Online: December 2016), available at http://www.jcs.mil.

9. A POM (program objective memorandum) is a recommendation from the Services and Defense Agencies to the OSD (Office of the Secretary of Defense) concerning how they plan to allocate resources for a program(s) to meet the SPG (Service Program Guidance) and DPG (Defense Planning Guidance).

10. *MOC.*

11. Joint Staff, *Special Operations-Conventional Forces Integration, Interoperability, and Interdependence Final Report*, Task 6 of the 2013 Chairman of the Joint Chiefs of Staff Irregular Warfare Assessment, (Washington, DC: Joint Staff J-7, April 2015).

12. Examples of current MARSOC combat development initiatives with potential applicability to the larger force include: Long Range-Long Endurance Group 2 SUAS, Long Range (man-in-the-loop) Precision Fires, Counter-SUAS, improved company and team level fires, and a variety of small unit communications capabilities.

13. USSOCOM combat development and acquisition processes are governed by FAR (Federal Acquisitions Regulations) and nested with *CJCSI 3170.01H, Joint Capabilities Integration and Development System,* (Washington, DC: January 2012).

14. *MOC.*

15. Ibid. "The Marine Corps is currently not organized, trained, and equipped to meet the demands of a future operating environment characterized by complex terrain, technology proliferation, information warfare, the need to shield and exploit signatures, and an increasingly non-permissive maritime domain."

16. See Headquarters Marine Corps, *Marine Corps Bulletin 3900, Implementation and Execution of Capability Portfolio Management,* (Washington, DC: January 2017).

17. See USSOCOM, *Directive 71-4, Special Operations Forces Capabilities Integration and Development System,* (Tampa, FL: August 2014). USSOCOM component commands consist of Army Special Operations Command; Naval Special Warfare Command; Air Force Special Operations Command; Marine Corps Forces, Special Operations Command; and Joint Special Operations Command.