

Effects-based Operations COMBAT PROVEN

By P. MASON CARPENTER and WILLIAM F. ANDREWS

In issue 51 of *Joint Force Quarterly*, the commander of U.S. Joint Forces Command (USJFCOM), General James Mattis, USMC, published an article indicating that the “ideas reflected in EBO [effects-based operations], ONA [operational net assessment], and SoSA [system-of-systems analysis] have not delivered on their advertised benefits and that a clear understanding of these concepts has proven problematic and elusive for U.S. and multinational personnel.”¹ The commander then directed, “Effective immediately, USJFCOM will no longer use, sponsor, or export the terms and concepts related to EBO, ONA and SoSA

in our training, doctrine development, and support of JPME.”²

The USJFCOM directive to “turn off” EBO concepts is not well advised. Although the command has vigorously pursued development of EBO concepts, over time efforts have rendered a valuable joint concept unusable by promising unattainable predictability and by linking it to the highly deterministic computer-based modeling of ONA and SoSA. Instead of pursuing a constructive approach by separating useful and proven aspects of EBO and recommending improvements, USJFCOM has prescribed the consumption of a fatal poison. General Mattis declares that “the term

effects-based is fundamentally flawed . . . and goes against the very nature of war.”³

We disagree. EBO is combat proven; it was the basis for the success of the Operation *Desert Storm* air campaign and Operation *Allied Force*. A very successful wartime concept is sound and remains an effective tool for commanders. It is valuable for commanders to better understand cause and effect—to better relate objectives to the tasks that forces perform in the operational environment. While there are problems associated with how EBO has been implemented by some organizations, they can be easily adjusted. As a military, we must understand the value of

Colonel P. Mason Carpenter, USAF, is Chairman of the Joint Chiefs of Staff Chair in the Industrial College of the Armed Forces at the National Defense University. Colonel William F. Andrews, USAF, is Chief of Staff of the U.S. Air Force Chair in the Industrial College of the Armed Forces at the National Defense University.

U.S. Air Force (Michael Best)

Airman measures crater to assess achievement of intended effects

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 2009		2. REPORT TYPE		3. DATES COVERED 00-00-2009 to 00-00-2009	
4. TITLE AND SUBTITLE Effects-based Operations Combat Proven				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) National Defense University, Institute for National Strategic Studies, 260 Fifth Avenue SW Bg 64 Fort Lesley J. McNair, Washington, DC, 20319				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 4	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

EBO, address concerns in its implementation, and establish a way ahead to gain the benefits and avoid the potential pitfalls of the concept.

Value in “Effects”

The foundational concepts behind effects-based thinking represented by EBO are working and in use at all levels of command. EBO, stated simply, is a disciplined way to first understand the strategic objective, take a comprehensive look at possible courses of action, and then link tasks (through the effects they create) to that objective. Whether EBO is embraced by USJFCOM or not, commanders facing the complex environments and adversaries in Iraq and Afghanistan naturally gravitate toward discussing the “effects” of various actions, including kinetic, humanitarian, or information operations. All levels of command are well advised to think about effects; the joint community has been discussing the potential strategic effects of low-level individual actions in the decade that has passed since Marine Corps Commandant General Charles C. Krulak introduced the “strategic corporal” concept in 1999.⁴ The strategic corporal’s potential to create helpful or harmful effects indicates the necessity for broadminded, not narrow, deterministic thinking. The linking of action, effect, and objective must consider the entire range of possible outcomes: desired or undesired, direct or indirect. The joint and interagency communities’ payoff of effects-based thinking is the consideration of a broad range of potential actions to achieve the objective.

Recent updates to joint and Service doctrines reflect current practices and recognize the value of effects-based thinking. Joint Publication (JP) 3–0, *Joint Operations*, revised February 13, 2008, captures the essence of EBO by identifying effects as the link between

effects can be direct or indirect, intended or unintended; and effects constitute a major element of operational design:

*The use of effects during planning is reflected in the steps of [the joint operational planning process] as a way to clarify the relationship between objectives and tasks and help the [joint force commander] and staff determine conditions for achieving objectives. Commanders and staffs can use commander’s intent, a systems perspective of the operational environment, and an understanding of desired and undesired effects to coordinate and promote unified action with multinational and other agency partners.*⁶

Explicit joint use of this valuable concept has expanded rapidly. The 1995 version of JP 5–0 had no uses of the term *effects*, the 2002 version had 3, and the most recent version has 124. This joint recognition of effects-based thinking is EBO in everything but name and is an appropriate vector for joint doctrine.

Joint understanding should leverage ongoing Air Force development of EBO concepts. Air Force doctrine now explicitly uses the term EBO, and the ideas behind it mesh well with existing joint doctrine on effects. Air Force Doctrine Document 2 (AFDD 2), *Operations and Organization*, offers the joint community a pragmatic set of principles for EBO, well founded in the theory of war and tested in combat, that could greatly assist in reforming USJFCOM’s excesses in misapplying EBO. Recognition and application of several EBO principles outlined in AFDD 2 might have helped USJFCOM avoid the excesses that catalyzed General Mattis’ directive:

- *Effects-based operations recognize that war is a clash of complex adaptive systems.*
 - *Planning should always try to account for how the enemy will respond to planned actions.*
 - *Warfare is complex and non-linear.*
 - *Cause and effect are often not easy to trace.*
- *Effects-based operations focus on behavior, not just physical changes.*
- *Effects-based operations recognize that comprehensive knowledge of all actors and the operational environment are important to success, but come at a price.*⁷

These principles are a solid recognition of constants inherent to the nature of war,

emphasizing uncertainty and unpredictability, as well as a thinking, adaptive enemy. A great strength of this formulation of EBO is the focus on behavior, not physical changes. The importance of this principle is particularly relevant to ongoing operations in Iraq, where General David Petraeus declared the Iraqi people as the “key terrain.” Our actions are seeking lasting changes in their behavior.

EBO Concerns

General Mattis is justifiably concerned that “various interpretations of EBO have caused confusion throughout the joint force and among our multinational partners.”⁸ Part of the problem is terminology, part is application, and a final part is lack of understanding. Today, we have “effects” in joint doctrine, effects-based thinking and effects-based operations in Service doctrine, and an effects-based approach initiative to operations (EBAO) in the North Atlantic Treaty Organization (NATO). There is a common core concept among all these efforts, so emphasis should be placed on having the communities establish common lexicons and understandings.

The best path may be to develop and author a joint doctrine that includes EBO, providing common definitions but allowing for leading-edge concept development to “plug in.” The worst course of action is to foreclose on options brought to the table by joint, interagency, or international partners by a vocabulary that inhibits the fullest understanding of their contributions. If NATO is considering EBAO, why is the concept acceptable for our allies but not for the United States? If NATO’s EBAO has a stronger consideration of a “whole-of-government/comprehensive approach,” why do we not seek out the best of this approach and embrace it instead of shutting down the concept? It must be acknowledged that EBAO has stalled in NATO, but it stalled for one of the very reasons that we should continue to embrace it. The French generally oppose NATO efforts they believe will expand Alliance operations beyond traditional military roles and activities. They see EBAO as a viable method for NATO to consider alternatives beyond military operations and oppose application for that reason. In the Pacific, senior American officers recently returned from a Korean National Defense University seminar where global partner nations’ military officers indicated that Combined Forces Command has incorporated

recent updates to joint and Service doctrines reflect current practices and recognize the value of effects-based thinking

tasks and objectives: “tasks are executed to create effects to achieve objectives to attain an end state.”⁵ JP 5–0, *Joint Operation Planning*, mirrors and amplifies joint thinking on the subject. Effects link tasks and objectives;

EBO in all planning and assessment processes for the defense of the Korean Peninsula. This incorporation was supported by senior officers of multiple Services.

When EBO has been misunderstood, overextended, or misapplied in exercises, it has primarily been through misapplication or over-engineering, not because of EBO principles themselves. Specifically, the bundling of ONA and SoSA with EBO weighed down a useful concept with an unworkable software engineering approach to war. ONA and SoSA

the shortcomings of the engineering approach should not be grounds to terminate working EBO concepts reflected in Service, joint, and allied doctrines

may offer important contributions, but the predictive outcomes promised run contrary to the uncertainty inherent to many conflicts. The Services objected to USJFCOM's combination of these three efforts and had some effect with dampening some of the extreme claims and added disclaimers, but the three have been too closely linked for some.⁹ The shortcomings of the engineering approach should not be grounds to terminate working EBO concepts reflected in Service, joint, and allied doctrines. Instead, we would do better if we communicated the depth to which effects-based thinking can be realistically applied, the pitfalls of over-engineering the idea, and the limitations to avoid overextension.

General Mattis' critique implies that EBO is incompatible with the principles of war, mission-type orders, and decentralization. Although the U.S. military may have substantial problems adhering to some of these time-tested concepts, the root of the problem is not EBO. Our first principle of war is the "objective." But over the years, we have at times failed to understand and adhere to this principle. EBO promotes clear and detailed understanding of objectives. Only with clear understanding can a leader properly consider appropriate courses of action. As Clausewitz noted, the "first, the supreme, the most far-reaching act of judgment that the statesman and commander have to make is to establish . . . the kind of war on which they

are embarking."¹⁰ He goes further to state, "No one starts a war—or rather no one in his senses ought to do so—without first being clear in his mind what he intends to achieve by that war and how he intends to conduct it. The former is its political purpose; the latter its military objective."¹¹ This is exactly the first step of EBO.

Practically made for mission-type orders, EBO is not locked to any specific level of conflict and may be used by commanders at any level. Similar to the ideas of "auftragstaktik" and mission-type orders, EBO provides an outline for understanding the environment and planning operations while allowing individual commanders to apply it to their unique context and determine their own strategy and tactics. Mission-type orders are essentially an application of EBO at the tactical level. EBO can become a detriment to timely or decentralized decisionmaking if it can only be applied when tied to massive staff- or software-driven analytical tools. Commanders will always have to find the balance between time available and the risks of uncertainty and make decisions based on the best information available at the time. All four Services praise decentralized action in their doctrine, but commanders at all levels (and in all uniforms) routinely pull decisions

to higher levels. Not "walking the talk" does not emanate from EBO; it more often springs from the irresistible temptation created by ever-increasing connectivity, as well as the commander's intolerance of risk for negative strategic consequences, that might result from ill-advised or inexpertly executed tactical actions. This dilemma points toward a new discipline for information-age decisionmakers rather than discarding EBO.

General Mattis' critique argues that we will need a balance of regular and irregular warfare competencies and we must better leverage nonmilitary capabilities and strive to better understand the different operating variables that make up today's more complex operating environments. We agree. EBO provides an appropriate tool for the commander to understand potential contributions of the widest array of military and nonmilitary capabilities. By explicitly considering the effects created by humanitarian, information, security, kinetic, or any other type of operations, space is created for the selection and integration of these diverse capabilities. EBO can be used as a template for best understanding a problem and is not predisposed to any given theater, situation, or solution set. If we are in error to think "what works (or does not work) in one theater is universally applicable to all theaters," then

Ministry of Defence-Royal Air Force (Gareth Davies)



Combined Air Operations Center on Arabian Peninsula acted as nerve center for air operations in Operation Iraqi Freedom

why would a joint force commander intentionally foreclose on a concept such as EBO that might illuminate alternative approaches?

A troubling aspect of General Mattis' critique appears to be pointing at the opposite by limiting options. The argument that "effects-based operations tend to be ineffective when used exclusive of ground maneuver"¹² and the revisionist "slap" at the value of precision aerial attack is oddly out of place in a cease-and-desist order regarding USJFCOM's approach to EBO if the directive is only out to eliminate conceptual confusion. If "precision fires alone" are judged by USJFCOM to have been "ineffective" in 1991, 1999, and 2003, we must wonder what standard is used to make this provocative judgment.¹³ No instrument of U.S. power is used in isolation, and no military operation is conducted exclusively in one domain, so the standard of judging any action "alone" is pointless. American Airmen might be excused for contemplating whether the general's edict is indirectly aimed at excluding the strategic use of airpower in order to drive an exclusive focus on "the three-block war" as the only future American way of war.

General Mattis' emphasis on adding friction to the enemy's problems and reducing friendly friction is well advised. However, operations other than ground maneuver (for example, aerial attack, cyberspace attack, nonmilitary actions) have the potential to do much more than simply add or reduce friction. Strategic effects can be generated by countless combinations of our instruments of power—some including ground maneuver, some not. While no one is suggesting certainty or absolute determinism, EBO is a tool that serves as a way to think of possible and likely effects in many areas. Because the enemy is smart and adaptive, an effort to limit joint concepts or approaches to war takes an arrow out of our quiver and makes us more predictable. A U.S. joint command should accommodate diverse approaches to war developed by the Services. The diversity of our ideas is a great American strength; it gives us more options and creates more problems for the enemy.

Addressing Concerns

General Mattis' directive will certainly correct any excesses in USJFCOM's work on effects-based operations, but it will also harm the valuable aspects of a working concept. Clearly, there is work to be done in embracing

while no one is suggesting certainty or absolute determinism, EBO is a tool that serves as a way to think of possible and likely effects in many areas

those valuable aspects, reconciling the differences in terminology, and perhaps most importantly managing expectations. Overpromising and under-delivering is a sure way to undermine a concept. Promising certainty in an inherently uncertain environment was a fatal flaw for one strain of EBO thinking. So where do we go to reform EBO development? These six steps are in order:

- Establish a common lexicon that unites the joint and allied understandings and use of EBO. Work toward a joint doctrine that provides common definitions but allows for leading-edge concept development to "plug in" and does not foreclose on any capability set.

- As NATO has done and as the USJFCOM Joint Warfighting Center advocates in the *Commander's Handbook for an Effects-Based Approach to Joint Operations* (February 26, 2006), adjust the term *effects-based operations* to *effects-based approaches to operations* across the joint community. This better reflects the concept of EBO and helps disassociate it from concepts that have been attached to EBO but are not really integral to it.

- Refine and incorporate the principles of EBO within joint doctrine as a starting point for defining what EBO can and cannot do, and how it must mesh with the nature of war.

- In preparation for further doctrinal discussion, compare the differing interpretations of EBO and identify best practices to embrace and shortcomings to avoid. Propagate these throughout concept and doctrine communities for wider incorporation.

- Disassociate EBO, ONA, and SoSA. Each must sink or swim on its own merits. Shortcomings in one concept should not bring down the others. Develop an appropriate level of analytical capability to support EBO with an improved understanding on the temporal and objective limits of analysis developed to support it.

- Educate leaders and staffs on the benefits of using an effects-based approach, its limitations, how to mitigate shortfalls, and avoid potential pitfalls. EBO should be used as an element of the commander and staff toolkit,

not as a panacea for all important decisions. Leaders should understand the times, levels of conflict, and context in which EBO is best used.

Effects-based operations will not go away; its efficacy and utility will ensure continued application. Discarding effects-based operations from our lexicon will not help bring our joint military community together. U.S. Joint Forces Command will continue to lead much of the development of our joint forces. But while its commander has the authority to do so within his own command, he should not unilaterally discard proven joint concepts without further discussion and coordination outside his command. U.S. Joint Forces Command plays too important a role in joint integration to make such a one-sided decision without additional discourse. Further development and improvement of effects-based operations will help prevent our military from throwing our combat-proven baby out with the bathwater. **JFQ**

NOTES

¹ General James N. Mattis, USMC, "USJFCOM Commander's Guidance for Effects-based Operations," *Joint Force Quarterly* 51 (4th Quarter, 2008), 106.

² Ibid., 108. Emphasis in original.

³ Ibid., 107.

⁴ Charles C. Krulak, "The Strategic Corporal: Leadership in the Three Block War," *Marines Magazine*, January 1999.

⁵ Joint Publication (JP) 3-0, *Joint Operations* (Washington, DC: The Joint Staff, February 13, 2008), iv.

⁶ JP 5-0, *Joint Operation Planning* (Washington, DC: The Joint Staff, December 26, 2006), III-12.

⁷ Air Force Doctrine Document 2, *Operations and Organization* (Washington, DC: Headquarters U.S. Air Force, April 3, 2007), 16-20.

⁸ Mattis, 105.

⁹ See, for example, the now-withdrawn Joint Warfighting Center Joint Doctrine Series Pamphlet 4, *Doctrinal Implications of Operational Net Assessment* (ONA), February 14, 2004; Pamphlet 7, *Operational Implications of Effects-Based Operations*, November 17, 2004; and the *Commander's Handbook for an Effects-Based Approach to Joint Operations*, February 24, 2006.

¹⁰ Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (New York: Knopf, 1976), 102.

¹¹ Ibid., 579.

¹² Mattis, 106.

¹³ Ibid.