Soldiers search home for weapons and contraband, acting on intelligence gathered from local Iraqis

1st Combat Camera (Suzanne Day)

Eyes on Target

Intelligence Support to an Effects-based Approach

By **JAMES B. ELLSWORTH**

The value of an effects-based approach has been recognized since the days of Sun Tzu, but the war on terror has reinforced the central role of effects in achieving victory. Whether fighting a country such as Saddam Hussein's Iraq or a nonstate adversary such as al Qaeda, traditional attrition warfare is unlikely to be strategically effective simply because opponents are likely to shun courses of action built around the kind of center of gravity that can be readily located and exposed to U.S. military might. Effects-based operations (EBO) attempt to transform America's warfighting doctrine to fit this world, where military supremacy over likely opponents is not realistically in doubt, yet where victory depends on the ability to wield (or restrain) that supremacy in synchronization with the other instruments of power toward common policy objectives.

The road to EBO, however, has been far from straight. Early skeptics skewered EBO as requiring the ability to see inside the enemy commander's mind, a concern that supporters largely answered by focusing on the concrete end of the effects spectrum. In turn (somewhat paradoxically), this has prompted other critics to dismiss EBO as either overly mechanistic or little different from traditional practices. Recently, the trend is for proponents to go to great lengths to paint EBO as revolutionary, downplaying its relationship to operational art and restricting any connections made to the enduring principles of war to perhaps the occasional soundbite attributed to Clausewitz or Sun Tzu,[1] while opponents charge that it ignores—and may even be incompatible with—such traditional wisdom.[2]

This odd dance around the issue of what actually persuades an enemy to give up has drawn scant clarity from recent operations, as evidenced by the lackluster response to a concept of operations billed for Iraq as "shock and awe." Yet the Iraq operation produced the stated objective of "regime change" without requiring attrition of a large proportion of the enemy force or the collateral damage typically associated with attrition warfare—a distinction frequently listed as an advantage of EBO.

Such conflicting impressions highlight another critical shortfall—metrics—both at the practical level, for assessing the extent to which a desired effect has been achieved, and at the doctrinal level, for testing the hypothesis that the investments an effects-based approach requires will enhance military effectiveness. At their respective levels, these represent gaps in critical information required by commanders if an effects-based approach is to work. As such, they require evolution of the intelligence system.

What follows suggests, first, that commanders must widen the focus of priority intelligence requirements (PIR) supporting an effects-based approach beyond traditional issues of military capabilities and intent (especially on "personalities" and "cultural" intelligence) and increase the focus of battle damage assessment (BDA) on detecting the systemic or psychological effects noted above. Second, it asserts that a key part of the value added by an effects-based approach is its application of the proven methodology of joint intelligence preparation of the battlespace (JIPB) to aid in these efforts beyond the purely military dimension of operations. Third, it explores the reconceptualization of the intelligence team that these developments require—to include issues surrounding enhanced interagency collaboration.

This article explores the evolving effects-based approach and identifies

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challenges and requirements for effective implementation. It then examines existing or emerging tool sets that may help answer these requirements. Finally, it derives general recommendations for an intelligence system that keeps "eyes on target." If the utility of shock and awe has been limited by the issues that EBO critics note—and if those issues, rather than being insoluble, can be addressed by a refocused intelligence system—then an effects-based approach can become a critical enabler for victory.

EBO and Intelligence: An Analysis

Notwithstanding the controversy over the feasibility of an effects-based approach, some themes are notable for their prevalence among proponents and skeptics alike. Its dependence upon a robust intelligence capability in general—and a greatly expanded ability to "get inside the heads" of enemy leadership in particular—is one such theme.

This theme in itself is not especially unusual; just as the roots of effects-based thinking can be traced back (at least) as far as Sun Tzu, so too can its relationship to detailed knowledge of the adversary—the latter, in fact, provides the best known Sun Tzu soundbite: "Know the enemy and know yourself; in a hundred battles you will never be in peril."[3] This wisdom also informs current U.S. doctrine. In particular, Joint Publications 3–13, *Joint Doctrine for Information Operations*, and 3–53, *Doctrine for Joint Psychological Operations*, address such knowledge, if largely as a matter of targeting those specific types of operations. When drawing on these publications, however, one should remember that such understanding—when one is thinking in effects-based terms—can be equally useful in planning a kinetic attack to stimulate desired effects.[4]

Curiously, though, another theme on both sides of the debate is lack of confidence in the ability of America's intelligence systems to deliver on this requirement—or at least lack of a clear understanding of how to get there from here. Together, these two themes hold key ramifications for the effects-based debate. Most particularly, if a plausible road map can be laid out, perhaps the debate itself can move from whether an effects-based approach is a solid operational concept to how the obstacles standing in the way of its implementation can most effectively be addressed.

This does not suggest that an automated analysis tool or even bona fide cultural experts will ever offer the commander a predictive certainty. Rich psychological and sociological data can seldom be reduced to terms from which a mathematical formula can derive a "right answer." Yet "qualitative" does not imply a lack of validity—or prevent the analyst from legitimately representing subjective data in "quantified" terms to facilitate systematic assessment. Staff officers exercise complex qualitative judgments during course of action comparison—using numerical ratings to represent their professional (subjective) assessments of the weight and value of the decision criteria—and the military is no stranger to "red-amber-green" characterization of everything from unit readiness to PIR status (essentially a quantification of subjective judgment on a three-point scale). In both cases, the culture readily accepts both the validity of the judgments themselves (based on faith in the professional competence of those making them) and the use of quantified representations to convey the bottom line. The inability to achieve a reductionist precision should no more deter the commander and his staff from leveraging competent cultural and psychological intelligence in effects-based planning than from employing these more familiar tools.

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In fact, the safeguards that will allow the joint force commander and his staff to reap the benefits of an effects-based approach without falling victim to a false sense of certainty are the familiar tenets of the military decisionmaking process and its supporting processes. The staff should not construct a linear plan based on the assumption that friendly actions will produce the desired effects (and only the desired effects), but rather should try to incorporate branches to minimize disruption and regain the initiative if events unfold in other ways.

A similar approach should be applied to the problem of assessment. Just as the prudent commander will want coverage of indicators that could suggest that a key kinetic BDA was incomplete or erroneous, so too should the plan incorporate indicators and sequels to address gaps or errors in nonkinetic effects assessment. Likewise, just as the chance of error and oversight does not prevent the commander from basing decision points on kinetic BDA, neither should it dissuade him from leveraging assessment of nonkinetic effects in his decisions.

For the intelligence function in particular, these safeguards are inherent in an effects-based approach. On close examination, it is clear that its system of systems analysis (SoSA) is built on the proven (and generalizable) methodology of JIPB. Just as JIPB expanded on the accepted intelligence preparation of the battlespace process to examine the military dimension from the perspective of all Services, SoSA expands on JIPB to connect and analyze all political, military, economic, social, informational, and infrastructure (PMESII) dimensions and to apply this analysis to "unaligned" as well as friendly and adversary systems.

This "systems perspective" is made explicit in the new *Commander's Handbook for an Effects-Based Approach to Joint Operations*,[5] which both depicts it in a figure[6] and describes the "SoSA-enhanced JIPB" process in an outline that will be familiar to all military intelligence professionals.[7] The *Commander's Handbook* has taken an important step toward emphasizing the criticality of these issues and suggesting approaches for addressing them. Yet it raises as many questions as it answers, with many details remaining vague and little explanation of how the manpower bills accompanying its recommendations are to be resourced within the combatant commands.

While the increased emphasis the effects-based literature places on "nodes" and "links" may remain less comfortable, this merely attaches concrete terms that facilitate a systems view of the battlespace to considerations already inherent in JIPB. For example, a force engaged in counterinsurgency, when conducting JIPB, would likely have taken notice of a fuel storage facility that was believed to be supplying the insurgents and assessed its effects on friendly and adversary courses of action. By systematically identifying battlespace elements in terms of nodes and links, though, it decreases its chances of overlooking that same facility's role in supplying fuel to local farmers, schools, and hospitals for whom traditional responses of destroying the facility or even imposing stronger access controls might pose significant hardship, alienating the populace.

In a more permissive environment such as disaster relief, the same principles apply. For example, if food distribution for a particular region was predominantly handled by a given facility—and that facility was decimated by the disaster—systematic node/link analysis would highlight that relationship, enabling the assisting U.S. or multinational force to identify a critical vulnerability to essential services in that region. Once again, a key part of the value added by an effects-based approach lies in broadening application of validated intelligence and planning methods to consider PMESII dimensions (and effects) beyond the military.

Further confidence can also be drawn from the historical experiences of other disciplines that have had to cope with the complexity of human thought and emotion. Education scholars were once baffled by the problem of assessing the causal relationship between a teaching "event" and actual learning in the student's mind. The pioneering work of B.F. Skinner overcame this obstacle by embracing the notion of the "black box." At the practical level, one does not need to see what is happening inside the mind of the student (the ability to peer inside the black box) if students exposed to the teaching event consistently retain observable behaviors not previously present.[8] On this foundation, later researchers constructed a sophisticated understanding of human learning, which is now being validated at the level of cognitive neuroscience. Starting with a similar premise (one need not be able to see into the mind of the enemy if he consistently shows a link between observable behaviors and certain effects), it may be possible to identify next steps toward more rigorous effects-based models by reviewing the historical path taken by educators as they moved from Skinnerian pragmatism to today's more robust models of learning.

That being said, several key challenges remain to implementing an effects-based approach as it is currently envisioned. Perhaps foremost among these is the absence of disciplinary expertise associated with these new intelligence demands on Joint Task Force and geographic combatant command staffs. Shortfalls in some of these fields—such as human intelligence, cultural expertise, and language skills—are commonly recognized. Yet other factors—despite their oft-cited roles in various missteps in Iraq—have received much less attention. Five years later, John Shanahan's call for inclusion of "the psychologist, psychiatrist, sociologist, or religious expert"[9] remains largely unheeded.

A second, related challenge is manning the myriad boards, centers, and cells supporting an effects-based approach. Such intensive manpower requirements are especially problematic for a developing concept that—by definition—offers scant evidence on which to judge whether the gains from that investment justify it. U.S. Joint Forces Command, in the *Commander's Handbook*, states confidently that "gaining a sufficient systems perspective may take more time and consume more resources up front, but ensuing planning, execution, and assessment should yield greater effectiveness and efficiency throughout the remainder of the operation,"[10] yet at this stage this is little more than an untested hypothesis.

Recommendations

Several actions should be taken to improve the ability of the intelligence system to support an effects-based approach. The most critical of these fall into three categories: "foundational"; associated with either SoSA-enhanced JIPB or BDA; and "guiding." Taking these actions now will enhance the commander's ability to target the adversary's will to resist, sway unaligned groups toward the friendly desired endstate, and safeguard friendly mission effectiveness. Of equal importance, it will facilitate the intelligence staff's assessment of the degree to which such desired effects have been achieved (and undesired effects avoided)—together with identification of unanticipated second- or third-order effects, thereby supporting timely selection of subsequent friendly actions to exploit or mitigate the results.[11]

Foundational actions will help acquire and institutionalize the expertise necessary to analyze and interpret data from the nonmilitary PMESII dimensions, especially cultural and psychological data, for either planning (JIPB) or assessment (BDA). In the near term, the commander and his intelligence staff should reach out to the interagency community. Counterparts within organizations likely to have been engaged in a country well

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2d Communications Squadron (Stephen Otero)

Above: Iraqi colonel and intelligence officer plan raid on a weapons cache with help from U.S. Army Military Transition Team trainers. Right: Air Force tactical air control team reviews intelligence collection from previous day's missions

before the military instrument is called upon to operate there may have "a long history and understanding of the culture in which a military operation will take place,"[12] including the psychology and personalities of that culture's leaders. Integrated into the planning and intelligence staffs (perhaps as part of a National Intelligence Support Team[13] or within the Joint Interagency Coordination Group[14]), these experts may supply the very ability "to know any other nation, leader, or people in the requisite detail to anticipate behavior"[15] that much criticism of an effects-based approach has simply assumed to be out of reach.

Institutionalization of this solution requires reconceptualizing the intelligence team at the operational level, to incorporate such expertise organically to the joint force—now increasingly an interagency force—as it goes to war. This must go beyond merely absorbing interagency personnel to contribute to the accomplishment of military effects; ideally, it should translate into equal enhancements to the efforts of other agencies to leverage a systems view as they identify their own nodes and links, pursue desired nonmilitary effects, and assess their success at achieving them. Perhaps most important, it should facilitate country team efforts to ensure that all U.S. Government organizations pursuing the same national policy objectives coordinate their efforts from a shared understanding of the PMESII environment.

Longer-term action on this recommendation might include targeted recruiting, into a more broadly conceived foreign area officer corps, of a limited number of (for example) second-generation immigrants representing each nation of the world, educated in the profession of arms (and perhaps in intelligence), who would maintain in-depth language/cultural understanding, be trained and practiced in thinking like their nation's leaders/people, and specialize in advising commanders on the cultural and psychological issues of effects-based planning and assessment.

In the JIPB area, intelligence staff training must routinely incorporate—even if only via reachback—collaboration with interagency partners whose responsibilities lie in the same region, and should prepare J2 (Intelligence) personnel and their counterparts to:

- know the value of cultural and psychological understanding and other nontraditional expertise to a SoSA-enhanced JIPB process—that is, JIPB applied to all PMESII dimensions
- know sources for such expertise organic to the joint force, across the interagency community, and even outside government
- facilitate integration of that expertise into effects-based planning and assessment functions.

Over and above its facilitation of an effects-based approach, incorporation of this expertise would enhance the practice of traditional operational art by discouraging mirror-imaging and increasing the likelihood of identifying the enemy's center of gravity as he sees it—and not as the friendly commander would see it were the situation reversed.[16]

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Commanders and staffs should also look outward to other disciplines to identify developments that might assist in JIPB for an effects-based approach. For example, Gary Klein has studied critical decisionmaking among firefighters and emergency medical services personnel, as well as "pilots, nurses, military leaders, nuclear power plant operators, chess masters, and experts in a range of other domains."[17] While his research aims to identify and develop competencies and conditions that help experts make good decisions, understanding of his findings by warfighters employing an effects-based approach might be of equal use in planning kinetic or information operations to undermine or degrade those competencies or conditions in an adversary system to increase the likelihood of its leaders making bad decisions.

This provides an apt segue into the next set of recommendations, those pertaining to "psychological BDA." Here, the task is monumental but critical: a wholesale retooling of intelligence support to BDA.[18] Analysts in existing disciplines must understand the indicators that suggest progress toward the critical types of psychological effects collectible by their intelligence and must become proficient at their detection. For example, signals intelligence analysts might be able to diagnose dissolving command and control when an adversary who consistently favors high levels of personal control over his military during crisis suddenly stops communicating with the field (or when spurious traffic from units seeking direction abruptly spikes).

Integration of new skill sets within the intelligence staff may also be in order. Among the most promising possibilities here is the pioneering adaptation of the discipline of movement analysis described by Brenda Connors.[19] In contrast to traditional profiling, which is specific to each individual and can take years, this technique—based on "hard-wired" behaviors common to all humans—can discern a subject's general psychological state in real time, and much more if the analyst can study historical footage. With the omnipresence of television—and with the increasing reliance on the information instrument of power by America's adversaries—it would be a rare enemy leader who does not appear regularly in some video format to his followers or the world and who has not been doing so for long enough for the media to have an extensive collection of recorded appearances to serve as a baseline. Related work includes Paul Ekman's research on "facial micro-expressions,"[20] and theoretical support for such techniques is available from the field of neurolinguistic programming,[21] which involves analysis of word choice, eye movements, and similar indicators.

A final recommendation in this area involves development of intelligence doctrine supporting an effects-based approach. One cannot read the *Commander's Handbook* without sensing the ease with which a SoSA-enhanced JIPB process could overwhelm the intelligence staff. A closer read will suggest some techniques for modulating the required level of effort. Its JIPB section specifies steps to "determine the relevant OE [operational environment] systems" and to "identify the amount of OE detail *required and feasible within the time available*" [emphasis added], yet little guidance for making these critical

judgments exists at this stage. Until this gap is addressed, commanders may wish to apply traditional criteria, beginning at their own level of responsibility and working up and down as time and resources permit (trusting other echelons to do likewise, contributing their respective insights to the shared situational understanding).[22]

Finally, in the "guiding" category, commanders and their J2s should collaborate to identify new types of PIRs that capture what is most critical for the commander to know about the other PMESII dimensions, and about the personalities and psychological states of key enemy leaders and what mechanisms might be available for manipulating or assessing them. What friendly actions—kinetic or otherwise—would be most likely to interfere with those leaders' abilities to make good decisions, to induce psychological paralysis, or to achieve other nonkinetic effects? What cultural attitudes, values, or beliefs are central to the adversary's will to resist—at the national leadership level, among the military, or among the people—and what in these categories might offer a critical vulnerability for attacking that will? Effects-based planning thrusts these "social science questions" concerning coercion and capitulation (and the paucity of validated theory surrounding them) squarely into the arena of the military professional.[23]

Note that this guidance must be tied to the other recommendations detailed above. Good PIR will be of no use if the intelligence staff—or outside resources they can tap—lack the capabilities and tools with which to answer them. At the same time, those capabilities and tools will sit idle if the commander establishes only the traditional military "capabilities or intentions" PIRs with which he has grown comfortable throughout his career.

Those seeking to implement these recommendations must remember that there are other cultures to be considered: those of the Joint Task Force or geographic combatant command staffs, the warfighter, and the Intelligence Community,[24] as well as the myriad cultures of the interagency community. Each is built upon a long history of doing things well—albeit often in different ways—and can be expected to offer some resistance to change. It is thus especially critical that those analyzing lessons learned from exercises and operations establish metrics and collect and analyze data to test the hypothesis that making the investments that an effects-based approach requires will enhance operational and strategic effectiveness.

While doing so will clearly impose an additional burden on already taxed organizations, its results will either validate the hypothesis, providing hard data justifying the force structure enhancements necessary to execute an effects-based approach; or, refute the hypothesis altogether, allowing senior leaders to adjust course without waste of additional resources; or, partially refute the hypothesis, providing hard data supporting development of doctrine to help leaders scale down the effects effort to fit within the time and resources available. Failure to do so leaves proponents and skeptics of an effects-based approach equally unarmed in the intellectual debates needed to shape the concept.

Those leading the effort must devote careful attention to well-informed persuasion and to helping these cultures grow together to meet the challenge that lies ahead. The new intelligence focus needed to keep an effects-based approach's eyes on target does not ask the warfighter to rely on blind faith—only to absorb new types of analysis into the intelligence process—and to trust the familiar tools that continue to serve him well. **JFQ**

NOTES

[1] Harlan K. Ullman, "Slogan or Strategy? Shock and Awe Reassessed," *The National Interest* 84 (Summer 2006), 43–49.

[2] Milan S. Vego, "Effects-Based Operations: A Critique," *Joint Force Quarterly* 41 (2d quarter, April 2006), 51–57. See also Ralph Peters, "Bloodless Theories, Bloody Wars," *Armed Forces Journal* (April 2006), 34–36. Ironically, Vego argues that an effects-based approach is too mathematical and concrete, paying inadequate attention to the "unquantifiable" or "intangible" factors that he identifies as critical to operational and strategic success, while Peters argues that effects-based thinking is too fuzzy and abstract, paying inadequate attention to what he claims to be a fundamental reality, that "only killing wins wars."

[3] Sun Tzu, *The Art of War*, trans. Samuel B. Griffith (Oxford: Oxford University Press, 1963), 84.

[4] Kevin D. Admiral, "Effects-Based Operations: Enhancing Operational Art and Design in the 21st Century" (master's thesis, Joint Forces Staff College, 2005), 46–47.

[5] U.S. Joint Forces Command, *Commander's Handbook for an Effects-Based Approach to Joint Operations* (Norfolk, VA: U.S. Joint Forces Command, February 24, 2006), available at <www.dtic.mil/doctrine/jel/other_pubs/eb_handbook.pdf>.

[6] Ibid., figure II–1.

[7] Ibid., II–7, II–8.

[8] David R. Krathwohl, *Methods of Educational and Social Science Research* (New York: Longman Press, 1993), 634.

[9] John N.T. Shanahan, "Shock-Based Operations: New Wine in an Old Jar," *Chronicles Online Journal* (October 2001), n. 33, available at <www.airpower.maxwell.af.mil/airchronicles/cc/shanahan.html>.

[10] *Commander's Handbook*, II–12.

[11] Stephen P. Perkins and John D. Jackson II, "Effects-Based Operations and Its Enabling Capabilities in Expeditionary Warfare," *Military Intelligence Professional Bulletin* 30, no. 3 (July-September 2004), 18.

[12] Cynthia G. Efird and Carl T. Sahlin, "Using the Information Instrument to Leverage Military Force: A Need for Deliberate Interagency Coordination" (research paper, National War College, 1994), 39.

[13] Bruce O. Lankford, "Know the Enemy: Expanded Use of Leadership and Cultural Profile Data in Operational Planning" (research paper, U.S. Naval War College, 2001), 17.

[14] Perkins and Jackson, 16.

[15] James L. Boling, "Rapid Decisive Operations: The Emperor's New Clothes of Modern Warfare," in *Essays 2002: Chairman of the Joint Chiefs of Staff Strategy Essay Competition* (Washington, DC: National Defense University Press, 2002), 50.

[16] Lankford, 4.

[17] Gary Klein, *Sources of Power: How People Make Decisions* (Cambridge: Massachusetts Institute of Technology Press, 1998), 1.

[18] Edward C. Mann, Gary Endersby, and Thomas R. Searle, *Thinking Effects: Effects-Based Methodology for Joint Operations*, CADRE Paper No. 15 (Maxwell AFB, AL: Air University Press, 2002), 67–78.

[19] Brenda L. Connors, "No Leader Is Ever Off Stage: Behavioral Analysis of Leadership," *Joint Force Quarterly* 43 (3d quarter, October 2006), 83–87.

[20] Sharon Jayson, "Facial Expert's Ability to See Deception Has Him in Demand," *USA Today*, July 23, 2005.

[21] Lankford, 21.

[22] See *Commander's Handbook*, figure II–2, for evidence that this solution was anticipated.

[23] Robert A. Pape, *Bombing to Win: Air Power and Coercion in War* (Ithaca, NY: Cornell University Press, 1996), 322–323, 329–330.

[24] Dennis M. Nagy, "A Military Intelligence Knowledge Base and Knowledge Management: Cultural Factors," *Defense Intelligence Journal* 9, no. 1 (2000), 41.