

LETTER

To the Editor—General James Mattis, USMC, commander of U.S. Joint Forces Command, recently proclaimed effects-based operations (EBO) unsuitable as a planning philosophy for warfare. His memorandum and article in *Joint Force Quarterly* (Issue 51, 4th Quarter 2008) have caused a bit of a stir among Airmen, who identify more closely with the notion of EBO than he does. And well they should because, at heart, this disagreement highlights a difference in vision that is fundamental to American security and power projection.

General Mattis thinks like an infantryman. For the infantry, the basis of military power is taking and holding ground. If one wishes to dismantle the government of a nation, the formula is simple: invade the country, occupy it, enforce the changes that seem appropriate by controlling the distribution of resources, and leave when. . . . Well, we're better at invading, occupying, and controlling than we are leaving. At least Germany, Japan, and South Korea seem to suggest as much. *Targeting*, in the strict sense of the word, is foreign to the infantryman. While his combined-arms compatriots in the artillery have a notion of the word, the infantryman worries primarily about taking ground and killing or capturing enemy soldiers. The artillery branch in support of the infantry concerns itself primarily with targets that stand in the way of taking ground. While the range of artillery has increased over the past 200 years, the big guns seldom fire farther than a man can walk in a day—hence the tactical symbiosis of artillery and infantry and their aversion for targeting at the operational and strategic levels of war. Adaptive Planning makes more sense than targeting in this business. As Napoleon put it succinctly, “First I engage, then I wait and see.” The aphorism “A plan seldom survives the first encounter with the enemy” supports the notion of adaptation as the touchstone of the infantryman.

Similarly, targeting is the touchstone of the Airman. As Philip Meilinger once put it, “Airpower is targeting, and targeting is intelligence.” While the logical syllogism “Airpower then is intelligence” may be seductive, it is not true. Nor is Meilinger

completely correct. Suffice to say, however, that targeting and intelligence are more important to Airmen than infantrymen, who can usually gather their own intelligence on the spot. Airmen, on the other hand, need an almost exact sense of targets before they take off—nay, before they arm and fuel their craft. This sense of targets begs the question of effects.

Thus, most theories of airpower are effects-based. Giulio Douhet, Billy Mitchell, Hugh Trenchard, and the Air Corps Tactical School (ACTS) bunch all argued both implicitly and explicitly for effects. Douhet aimed to intimidate the enemy population through punishment attacks using gas to extort a favorable conclusion from the opposing government. ACTS espoused high-altitude precision bombardment of industrial capability to paralyze a nation's warmaking capacity. No wonder many of the old heads at Air University such as David Mets reacted to effects-based operations as little more than “old wine in new skins.”

But to understand the real foundation of effects-based theory, and almost all airpower theory for that matter, one needs to visit the ossuary at Verdun or the World War I battlefields on the Somme and Isonzo Rivers in France and Italy, respectively. The cradle of airpower and effects-based operations lies in these grinding battles of attrition, where infantry contested the ground and artillery did most of the killing. The flower of European manhood, as well as what F. Scott Fitzgerald called “tremendous sureties and the exact relations that existed among the classes,” perished in these battles. Douhet, his theoretical progeny in ACTS, and more modern proponents of effects-based air operations were all looking for a different way. The Americans interpreted airpower in the context of labor-saving machinery, so vital to the expansive frontiers of the new nation. “Send a bullet, not a man” translated easily to “send a bomber, not a bullet” for those prone to view military aviation as a labor-saving and lifesaving approach to warfare. From its beginning, this sense of “economy” was present in airpower theory.

If nothing else, effects-based operations argue for economy of force as an alternative to attrition in formulating strategy and prosecuting war. Attrition and its older cousin annihilation are the defaults in strategic thinking. In fact, some have argued that attrition is the substitute for strategy, but these thoughts were lost on the likes of Erich von Falkenhayn, the architect of Verdun, and William Westmoreland, the broker of body counts in Vietnam. Even the brilliant Harvard professor Stephen Peter Rosen, in *Winning the Next War*, erred in praising a change in the Allies' “strategic measures of merit” on the Western Front of World War I from taking land to killing Germans. Most practiced in the business of strategy might recognize attrition as a measure, but not one with merit, and hardly one with strategic merit.

Enter effects-based operations, a theoretical amalgam with enough flanks to render it well nigh indefensible. The chief EBO proponent in recent literature is David Deptula, a “ward” of the Checkmate strategy cell in the Pentagon run by John Warden and the Black Hole planning cell for Operation *Desert Storm*, as well as the joint air operations director for Operation *Enduring Freedom*. Deptula published “Firing for Effect” in 1995 and “Effects Based Operations” in 2001. Both articles claimed in their titles to document a “Change in the Nature of Warfare.” Both conflated three or four distinct theories. The first is the indirect approach espoused by Sir Basil H. Liddell Hart in 1929 in a book titled simply *Strategy*. Liddell Hart was shocked by the carnage on the Western Front and sought to interpret all of military history in terms of direct or indirect approaches to strategic and operational objectives. The dichotomy, as most socially constructed choices between black and white or zero and one, is false. The phenomenon of military operations is spectral. It does have extremes, one represented by annihilation and the other by what we will term the “silver bullet.” But most military operations lie in the gray area between these two boundary conditions.

And John Frederick Charles Fuller, in his 1926 *The Foundations of the Science of War*, would instruct Soldiers, Sailors, and Marines how to operate between the poles. Fuller elevated one principle of war to the status of law, and that was economy of force. He claimed a cost, immediate and lasting, for every expenditure of blood, sweat, and treasure in war, and he urged military planners and practitioners to consider efficiencies to be every bit as important as results in their grim work. Here Fuller and Liddell Hart can be viewed as complementary because the indirect approach is often more efficient in the application of means.

Here was John Warden's inspiration. In considering the Cold War problem of stopping Soviet tanks in Germany's Fulda Gap, he focused on their dramatic fuel requirements and realized that tanks without fuel would soon cease to be a threat. He further realized that he needed to destroy neither the tanks nor their fuel, only the means of fueling the tanks. Hence, the sump pumps that conveyed fuel from storage containers to thirsty tanks led to his epiphany on effects-based operations and inspired him to write *The Air Campaign*.

But Warden did not stop there. He went on to formulate a systems-engineering approach to air warfare by characterizing the enemy, any enemy, as a "fractalized" system of systems. Each fractal was composed of five "rings": leadership, organic essentials, infrastructure, population, and military forces. Warden advocated paralyzing the enemy system through simultaneous or "parallel" attack of systemically critical targets in all five rings. While the ultimate target was enemy leadership, it was not to be destroyed or influenced by decapitation, but rather by systemic paralysis. And stealthy airplanes dropping precision-guided munitions were the perfect means to this end. Here Warden and his theoretical protégé Deptula joined Douhet in seeking the essence of airpower and effects-based operations: the connection between physical means and psychological ends in the influence of enemy leadership. Douhet assumed that pressed hard and punished enough, a bombed population would pressure its government to meet the air aggressor's demands. Warden and Deptula went at it through systemic paralysis, but the implied assumption was still present—that ultimately a government would yield to a

condition of hopelessness and fear induced by air attack.

Critics, Mattis among them, argue that Warden assumed a closed system and that governments and the societies they lead are more aptly characterized as open and adaptive systems—and much less susceptible to shock and paralysis than the airpower theorists are willing to admit. As J.C. Wylie put it in *Military Strategy*, "The ultimate arbiter of force is a man with a gun." Unless the man with a gun goes to Verdun. Then what does he become?

Robert Pape, once of the School of Advanced Airpower Studies and currently at the University of Chicago, threw a slightly different twist into the theory of coercive airpower. He claimed that when military forces are denied the means to fight through destruction of their weapons and systems, they usually carry on in predictable fashion and either surrender or flee. Pape used this simple fact to underwrite *Bombing to Win* and concluded that fielded forces were indeed the most lucrative target for air attack. In Mattis' parlance, fielded forces come much closer to a "closed system" than do an enemy's population and government—or society in general. In a sense, General Mattis is picking at the perpetual scab of airpower—or what Peter Faber called its "Holy Grail," this connection of physical means to psychological ends. While first-, second-, and even third-order physical effects are within reach of predictive analysis, even first-order psychological effects remain elusive at best.

Yet in all of this theoretical mish-mash, there appears a compromise that makes strange bedfellows of Pape, Deptula, Warden, and even Mattis. That is the application of effects-based air operations to the enemy's fielded forces. Herein lies a formula for joint warfare. Surface forces cause the enemy to concentrate and move, increasing his vulnerability to air operations. Air forces cause the enemy to consider the price of movement, while surface forces pose the continual threat of invasion, occupation, and regime change. These threats are strategically more important than their execution. Once exercised, surface forces display limited potential for escalation in stakes. They can only do a limited number of things once committed: take ground, hold it, and attempt to secure the enemy population. Once engaged in that task,

surface forces hold limited potential to do the same thing somewhere else. And that is when people typically start misbehaving. Air forces, and to a similar degree sea forces, are much more elastic and retain more potential for redeployment. Hence, we should seek to influence our adversaries through airpower and seapower first and husband our ground forces because of their great potential as a coercive element before deployment. In use of air and sea forces, effects-based operations appears to be a reasonable philosophy, perhaps applied best to the enemy's military. When attacking the enemy's fielded forces with an effects-based philosophy, we might expect a smaller mess, less press, and perhaps even a modicum of success.

EBO is an incomplete theory neither clearly articulated nor well defined. It was more a reaction to "attritional" thinking than anything else. Sometimes it is useful to view EBO as a "spectral" phenomenon. At one end of the spectrum is the silver bullet: Saddam Hussein is killed in a precision attack on the first night of *Iraqi Freedom*, or Hitler dies in 1939. At the other end of the spectrum is annihilation: we kill everyone in the enemy country with nuclear weapons. Attrition of enemy forces lies between these two extremes and is usually the default when one fails to produce a better strategy for getting the enemy to yield. It seems commonsensical that we would attempt to achieve effects that exhibit the one principle of war that J.F.C. Fuller elevated to the status of law—and that was economy of force—by using our labor-saving air and sea forces as precisely and wisely as possible to preserve the great potential that inheres in our uncommitted ground forces.

So let's not throw out the baby with the bathwater and return to attritional models of thinking. To do so would obviate the positive aspects of EBO. And there certainly are many.

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Studies