

**APPROACHES TO EFFECTS-BASED OPERATIONS:
A RETROSPECTIVE ANALYSIS OF ADDRESSING CAUSALITY IN WAR**

**A HATÁSALAPÚ HADVISELÉS MEGKÖZELÍTÉSEI: A HÁBORÚ OKSÁGI ÖSSZEFÜGGÉSEI
VIZSGÁLATÁNAK VISSZATEKINTŐ ELEMZÉSE
(VAGY: A HÁBORÚ OKSÁGI ÖSSZEFÜGGÉSEINEK VIZSGÁLATA VISSZATEKINTŐ
ELEMZÉSSSEL)**

A közelmúltban a hatásalapú műveletek/műveletek hatásalapú megközelítése (EBO/EBAO) koncepció intenzív párbeszéd tárgya volt a nemzetközi tudományos katonai körökben. A katonai műveletek tervezése, szervezése és végrehajtása számára keretet biztosító elgondolásként, élénk visszhangot kiváltva, jelentős ellentmondást generált a kutatók között. Az eredmény ismert: a koncepciót néhány éve elvetették és minden további elméleti kidolgozó munkát megszüntettek. Ennek megfelelően a cikk egy kirándulás az elgondolás történetébe, különösen annak az ezredforduló körüli aranykorába, hogy a háború természetére vonatkozó oksági összefüggések feltételezéseit megértsük. Értelemszerűen a szerző ötletei és következtetései kizárólag a vizsgált korszakra vonatkoznak és nem foglalkoznak jelenlegi megközelítésekkel.

In the recent past the concept of Effect-Based Operations/Effects-Based Approach to Operations (EBO/EBAO) was subject to an intensive discussion in the international military scientific circles. As a theoretical concept dealing with the planning, preparation and conduct of military operations, EBO/EBAO attracted significant attention and caused a great deal of controversy among scholars. The result now is known: the concept was abolished several years ago resulting in the termination of any further theoretical development. Thus the article is a sort of excursion into the history of the concept, especially during its heydays around the turn of the millennium in order to understand the assumptions regarding the nature of causality in war. Consequently, the author's ideas and conclusions are indebted just to this time period and are neither commented nor compared with current approaches.

INTRODUCTION

„Because he's got to have men of courage, that's why. If he knew how to plan a proper campaign what would he be needing men of courage for? Ordinary ones would do. It's always the same; whenever there's a load of special virtues around it means something stinks.”

Mother Courage (Bertolt Brecht)

The term *effects-based operations* first appeared shortly after the 1991 war against Iraq in which the American-led coalition forces achieved a victory that surprised even the most optimistic analysts. Over time the term became a buzzword in the military lexicon and synonymous with Western, especially American, technological superiority. Terms such as *effects-based thinking*, *effects-based targeting*, *effects-based approach*, *effects-based planning*, *effects-based*

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execution and effects-based assessment were born.¹ Armed forces outside NATO also started to move towards this direction as the Israel Defence Force chief of staff, General Moshe Ya'alon emphasised in an interview: according to him, force transformation issues must focus less on force and power, but more on effect.²

Once there was an abundance of publications on the EBO/EBAO. The author introduces seven significant and influential publications representing different approaches. Every publication, regardless its logical and theoretical merit, is assigned equal weight. The aim of the author is to detail the assumptions regarding cause-and-effect relationships in military operations and the reasons why the concept was abandoned only after some years.³ The documents include papers written by an American Air Force general (USAF), the Research and Development Corporation (RAND), the Institute for Defense Analysis (IDA), the United States Joint Forces Command (USJFCOM), the Command and Control Research Program (CCRP), the Air Combat Command (ACC) and the Air University College of Aerospace Doctrine, Research and Education (AU CADRE).

UNITED STATES AIR FORCE

General Deptula from USAF regards the successful air campaign of the 1991 Gulf War as the birthplace of effects-based operations. However, the concept as such is not original for him as excellent military commanders have always known superior alternatives to attrition. For him effects-based operations stand for a methodology that capitalises on the causal relationship between action and outcome.⁴ Technological superiority in the form of stealth technology and precision guided munitions makes it possible to attack more separate targets at once than ever before in history. Consequently, effects-based operations fully exploit the temporal and spatial dimensions at every level of war.⁵

Control across the breadth and depth of the entire theatre eradicates the enemy's strategic freedom. Control makes it possible to attain security objectives without destruction or visible disruption. For this the enemy must be understood as a system-of-systems in which essentials such as leadership, population, industries, transportation, and military forces are affected to achieve system ineffectiveness.⁶ This requires a high rate of attack that deprives the enemy the ability to adapt or find alternatives. Precision capability decreases the amount of resources needed to suppress enemy air defences, and makes possible to focus on effects. Thus stealth and precision contribute to the ability to achieve control over parts of the enemy's systems, which leads to paralysis during a specific period. The result is harmony between the efficiency of hitting individual targets and the effectiveness to achieve campaign objectives. This enormous leverage makes the traditional concept of war, focusing on destruction and exhaustion, useless. Important is a deductive top-down approach in which strategy is decomposed into specific objectives down to specific tasks at the tactical level. This methodology makes it possible to directly relate lowest-level tasks to highest-level objectives.⁷

¹ ACT identified three objective areas with one focusing on achieving coherent effects. Goals include command for effective engagement, effects-based operations, and aspects such as effective engagement and joint manoeuvre effects. See Allied Command Transformation: Integrated Project Teams, 7 September 2004, pp. 1-2.

² HUGHES, Robin: Interview, Lieutenant General Moshe Ya'alon, Israel Defence Force Chief of Staff, Jane's Defence Weekly, 17 November 2004, p. 34.

³ Officially the British prefer the expression strategic effect of air power. Ministry of Defence: British Air Power Doctrine, AP 3000, Third Edition, Her Majesty's Stationary Office, 1999, pp. 2.6.1-1.6.10; HO, Joshua: The Advent of a New Way of War: Theory and Practice of Effects-Based Operations, Institute of Defence and Strategic Studies, Singapore, December 2003, pp. 5-10.

⁴ DEPTULA, David A. (Brig. Gen.): Effects-Based Operations: Change in the Nature of Warfare, Aerospace Education Foundation, Defense and Airpower Series, 1995, p. iii; A Dialogue on Analyzing Effects Based Operations (EBO), led by Dr. Jacqueline Henningsen, SES, MORS Fellow of the Society, Director Air Force Studies & Analyses Agency, [cit. 2003-03-31]. Available from: www.mors.org/publications/phalanx_mar02/Lead2.htm; DEPTULA, David A. (Maj. Gen.): Effects-Based Operations: A US Perspective, World Defence Systems, The Royal United Services Institute, Volume 6, Number 2, August 2003, p. 37.

⁵ DEPTULA, David A. (Brig. Gen.): Firing For Effects, Air Force Magazine, Volume 84, Number 4, April 2001, [cit. 2003-03-21]. Available from: www.afa.org/magazine/April2001/0401effects_print.htm.

⁶ DEPTULA, DAVID A. ref. 5, p. 37; DEPTULA: Air Force Transformation, Past, Present, and Future, Aerospace Power Journal, Fall 2001, [cit. 2003-04-02]. Available from: www.airpower.maxwell.af.mil/airchronicles/api/api01/fal01/phifal01.htm.

⁷ DEPTULADavid A., ref. 4 (1995), pp. 3-6, 7-10; DEPTULA, David A., ref 4. (2003), pp. 39-40.

For Deptula thinking in systemic effects is superior to individual target destruction as it shifts the focus from annexing territory towards controlling behaviour. Effects-based operations stand for a coercive concept that requires the coordinated application of all elements of national power in order to force enemy compliance. Applied properly it becomes possible to expand the strategic options, avoid attrition-oriented encounters, and to achieve integrated, specific operational and strategic effects.⁸ A former student of the Air University Jay M. Kreighbaum expanded on Deptula's ideas and developed a detailed taxonomy based on the order of effects, their dimension of time, their intention and their relation to the levels of war.⁹

RESEARCH AND DEVELOPMENT CORPORATION

Paul K. Davis from RAND emphasised that effects-based operations are not new, as successful commanders of the past, have also striven for objectives and related effects. For him the origins of the concept root in the revolt of the war-fighting community against two interrelated failures.¹⁰ The first is the poor force employment strategies of past wars, which focused on servicing targets. The war against Iraq was the first major war in which joint fires resulted in decisive effectiveness on enemy systems. Thus origins of effects-based operations can be found as much in the work of air power theorists as in the modern U.S. manoeuvre theory of the 1980's. The second failure comes from poor standard models and analytical tools, which do not accord with battlefield reality. As inappropriately structured conceptions they rest on an inadequate mechanistic view of warfare, and ignore important soft factors such as will and cohesion.¹¹

According to him effects-based operations require a much broader approach and a more realistic analytical toolset. The concept does not focus ultimately on traditional considerations as it emphasises the collapsing of the will and unit cohesion, and defeating enemy strategy. Enablers are qualities such as speed, agility, parallel warfare, decisiveness, and shock and awe. Regarding the promises of effects-based operations he is more cautious than Deptula as he does not exclude the traditional aspects of warfare such as attrition, destruction and occupation. Although the valid essence of effects-based operations is the systemic view and the focus on desired effects, a certain amount of attrition and annihilation, and the occupation of territory cannot be ruled out entirely. Consequently, he states that some of the most decisive military operations might still be personal and up-close experiences. Effects-based operations have physical and behavioural aspects, but further distinctions can be based on networking, the character of the target system, timescale and the levels of the conflict.¹²

Whereas physical aspects include the disruption of enemy manoeuvre, damaging enemy assets and killing enemy personnel, behavioural aspects aim at demoralising fighting capability, slowing down enemy actions, confusing and deceiving enemy commanders and influencing the decision-making process. The high-goals of effects-based operations focus on the cognitive domain, the decision-making process of political and military key personnel, or an entire population. Nevertheless, a strong re-calibration in terms of common sense is important. For him activities in war form a complex adaptive system, which often behaves in unpredictable ways. Thus cause-and-effect relationships are influenced by numerous internal and external factors for which there is never a single discernible variable on hand. Davis' definition of effects-based operations emphasises the importance of probability as such operations are "conceived and planned in a systems framework that considers the full range of direct, indirect, and cascading effects, which may – with different degrees of probability – be achieved by the application of military, diplomatic, psychological and economic

⁸DEPTULADavid A., ref. 4 (1995), pp. 15-16.

⁹KREIGHBAUM, Jay M. (Maj.): Force Application Planning: A System-and-Effects-Based Approach, School of Advanced Air Power Studies, Air University, June 1998, pp. 74-78.

¹⁰DAVIS, Paul K.: Effects Based Operations (EBO): A Grand Challenge for the Analytical Community, RAND MR-1477, 2001, pp. 1-3.

¹¹DAVIS, Paul K., ref. 10, pp. 4-8.

¹²DAVIS, Paul K., ref. 10, pp. 11-18.

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instruments.”¹³ To become fully effects-based requires changes in the current mindset for which new theories and methods are needed, together with a new empirical base in order to improve existing analysis and modelling tools.¹⁴

INSTITUTE FOR DEFENCE ANALYSES

For Gleeson et. al. from IDA, effects-based operations produce desired futures with a focus on the entire continuum and not just the conflict itself. Unlike Davis, who highlights the probability aspect of the concept they state that a more comprehensive approach might result in a better set of achievable goals.¹⁵ For them the concept rests on the overwhelming amount of data provided by advanced information, surveillance and reconnaissance technology. It means winning both war and peace, in which the emphasis is on higher order effects and complex adaptive systems. Effects-based operations make it possible to focus on operations more coherently, by exploiting the potential of new technologies and capabilities such as stealth, precision munitions and information operations.¹⁶

Desired futures mean assessment and adaptation at every level of warfare, and the involvement of all elements of national power. Thus effects-based operations explicitly and comprehensively link actions with outcomes at all levels of a conflict as it is possible to learn how to work with uncertainty, ambiguity and risk. There is a clear linkage between strategic outcomes, desired effects and tactical actions, in which military actions must be consistent with, and complementary to the stated political, diplomatic and economic goals. A successful co-operation and co-ordination across all elements of national power direct the focus from the traditional attrition-oriented warfare, and enable a more efficient and focused employment of force. Effects-based operations stand for a continuous process similar to the classical *observe-orient-decide-act loop* as outlined by Boyd, but the concept's strategic focus makes the loop broader and deeper in terms of effects and time. It is a mixture that comes from precision engagement, dominant manoeuvre, and information operations in which all elements of friendly national power address all elements of the enemy's national power.¹⁷

Gleeson et. al. state that becoming effects-based is extraordinarily difficult and requires hard thinking, capable commanders throughout history have always tried to implement effects-based campaigns. Success depends on understanding what the enemy values together with his beliefs and cultural motives. An important requirement is to shed the practices of mirror imaging and the projection of our culture, values and perspectives onto the enemy who always acts in unexpected ways. Effects-based operations also mean that military forces will probably be tasked in a supporting role to other agencies and will be only one element of a national-level effects-based approach. However, even perfect effects-based operations will not yield peace, allow conflicts without any drop of blood, or guarantee that wars will be won quickly and easily. The concept, however, can offer campaigns with greater coherence in which victory is achieved faster and cheaper in terms of money and men.¹⁸

They state that the assessment and importance of effects can change over time as new trends emerge and various indirect effects occur. Actions that result in planned and desired effects at a particular time can result in different effects later. Whereas some effects can work well together and create synergy, others interfere and negate each other's impact. Planning for effects should be guided by the effort to synchronise the timing of effects with actions. This makes it

¹³Quotation in DAVIS, Paul K., ref. 10, p. 26.

¹⁴ DAVIS, Paul K., ref. 10, pp. 7, 21-28, 79.

¹⁵GLEESON, Dennis J. and LINDE, Gwen (Col.) and MCGRATH, Kathleen and MURPHY, Adrienne J. and MURRAY, Williamson and O'LEARY, Tom and RESNICK, Joel B.: New Perspectives on Effects-Based Operations: Annotated Briefing, Institute for Defense Analyses, Joint Advance Warfighting Program, June 2001, p. 2.

¹⁶ GLEESON, Dennis J. et. al., ref 15., pp. 2-5.

¹⁷ GLEESON, Dennis J. et. al., ref 15., pp. 6-11; OSINGA, Frans: Science, Strategy and War, The Strategic Theory of John Boyd, Eburon Academic Publishers, 2005, pp. 268-279.

¹⁸ GLEESON, Dennis J. et. al., ref 15., pp. 13-15, 24, 36-39.

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possible to put pressure on the enemy's decision-making process to make his decisions and actions irrelevant. However, even with the most careful planning uncertainties of any kind will still remain.¹⁹

UNITED STATES JOINT FORCE COMMAND J9

Members of the USJFCOM J9, Concepts Department regard effects-based operations as an enabler for the concept of rapid decisive operations with far reaching consequences for the conduct of war.²⁰ They generalise effects-based operations and state that the concept covers the entire spectrum of operations including all levels of war, and require the application of all instruments of national power involving political-military relationships, and various interagency activities. The concept provides a comprehensive insight into enemy capabilities, environment characteristics, and our own strengths and weaknesses.²¹ Effects-based operations can be defined as "a process for obtaining a desired strategic outcome or "effect" on the enemy through the synergistic and cumulative application of the full range of military and non-military capabilities at all levels of conflict."²²

The definition emphasises, similar to Gleeson et. al., the ability to facilitate desired effects through all available capabilities, assessment of the outcomes and the requirement for rapid adaptation through continuous and iterative planning and execution cycles. The required comprehensive knowledge comes from networked and interrelated expert teams that conduct a systems analysis of the enemy. Desired effects are stated in the commander's intent, which focuses on the cohesion and behaviour of the enemy by causally linking tactical actions to desired strategic objectives. Effects-based operations mean that the full range of capabilities is applied in order to threaten, render useless or destroy things the enemy values most. Technological innovations and analysis tools make it possible to exploit causal linkages between effects and objectives.²³

Effects can be seen as the results of actions that support objectives through causal linkages. Effects-based operations not only provide the institutionalised process of planning and assessment, but acknowledge that a single action can produce more than one effect. Effects-based operations rest on a cohesive picture that includes information on political, military, economic, social, information and infrastructure factors. The concept requires the study of the enemy as a complex adaptive system with the aim to identify key links and nodes to get a better grip on his war-making and war-fighting ability. This system-of-systems analysis determines the courses of action in order to bring the enemy's behaviour towards the desired end state. Consequently, the focus is on pressure points to constrain and canalise enemy actions.²⁴

The historical focus in military operations was on direct, first-order effects. Effects-based operations mean that the focus has moved towards follow-on effects and other potential consequences. The concept relates all tactical actions to the overall desired outcome in which effects are traceable back to higher order strategy. Victory in war depends largely on the assessment of actions in order to determine to what extent desired effects have been achieved.²⁵ Effects-based operations require an understanding of the full spectrum of capabilities that the instruments of national power offer with the aim to modify enemy behaviour. It is important to target the will and perception of the enemy together with the capability of his military forces.²⁶

¹⁹ GLEESON, Dennis J. et. al., ref 15., pp. 21-22.

²⁰ USJFCOM J9: A Concept Framework for Effects-Based Operations, White Paper Version 1.0, as of 18. 10. 2001a, p. i.

²¹ USJFCOM J9, ref. 20, pp. 1-4.

²² Quotation in USJFCOM J9: A Concept for Rapid Decisive Operations, Whitepaper Version 2.0, as of 22. 08. 2001b, p. 6. USJFCOM J9, ref. 20, pp. 5-8.

²⁴ USJFCOM J9, ref. 20, pp. 8-11, 12-17.

²⁵ USJFCOM J9, ref. 20, pp. 18-22.

²⁶ USJFCOM J9, ref. 20, pp. 23-25, 32-37.

COMMAND AND CONTROL RESEARCH PROGRAM

Edward A. Smith from CCRP examines the relationship between effects-based operations and network-centric warfare.²⁷ The latter indicates military operations conducted in a previously unreachable region of the information domain. The result of this network-centric warfare is a new type of information advantage characterized by significantly improved capabilities for sharing and accessing information. It is widely assumed that network-centric warfare dramatically increases combat power on the tactical and operational levels of war. According to Smith, in an abstract sense network-centric warfare focuses on achieving effects on the enemy. Through the combination of both concepts war-fighting effects can be achieved at a higher operational tempo, which locks-out adversary courses of action. However, this is not entirely new since good generals, admirals and statesmen have successfully applied military force to shape the behaviour of both friends and foes.²⁸

Effects-based operations represent the ability to alter the enemy's thinking and behaviour through political, economic and military actions. The concept stands for coercion by forcing the enemy to take a certain course of action. Through effects-based operations, it is possible to see military operations as a cohesive political, economic and military effort. Unlike attrition-oriented campaigns that aim at degrading the physical capability of the enemy, effects-based operations aim at achieving psychological effects in the cognitive domain. The goal is to influence the enemy's behaviour to the extent that he does not want to continue with his resistance. Although achieving physical effects will remain a factor in effects-based operations, the true focus is on achieving psychological effects in which destruction is not the central factor or is to be avoided.²⁹

Interactions between stimulus and response motivate the enemy towards a particular behaviour. The easiest way to do this is to destroy certain capabilities through physical actions. Successful effects-based operations rest on a superior knowledge of the enemy and the situation in order to influence the decision-making process. The aim is to disrupt his observe-orient-decide-act loop, which limits the ability to take coherent actions.³⁰ Consequently, destruction is only important in terms of its impact on the enemy's will and psychology, but not on his physical capabilities. Effects-based operations together with network-centric warfare make possible to create a condition in which the enemy re-observes, re-orientes and re-decides continually with the result that he cannot act coherently or cannot act at all.³¹

Thus effects-based operations rest on the ability to create situations in which a relatively small application of force results in disproportionate and decisive impacts on the enemy. Operating beyond the enemy's edge of chaos may cause a state of despair in which further resistance appears to be futile.³² The concept stands for an asymmetric contest in which the forces involved are dissimilar in character and the respective courses of actions are different. Consequently, a network-centric force employed in effects-based operations can act as a complex adaptive system with the ability to mass superior effects on the will of the enemy. The result is not only an improvement in combat efficiency, but also an increase in effects-based efficiency.³³

²⁷SMITH, Edward A.: Effects Based Operations, Applying Network Centric Warfare in Peace, Crisis, and War, CCRP Publication Series, 2002, p. 1-12.

²⁸GARTSKA, John J.: Network Centric Warfare: An Overview of Emerging Theory, Joint Staff Directorate for C4 Systems, [cit. 2006-05-30]. Available from: <http://www.mors.org/publications/phalanx/dec00/feature.htm>; SMITH, pp. 1-2.

²⁹SMITH, Edward A. ref. 27, pp. 103-108.

³⁰SMITH, Edward A. ref. 27, pp. 108-116.

³¹SMITH, Edward A. ref. 27, pp. 117-133.

³²SMITH, Edward A. ref. 27, pp. 134-141.

³³SMITH, Edward A. ref. 27, pp. 145-152.

AIR COMBAT COMMAND

According to members of ACC effects-based operations are not new as the concept has always been applied throughout history with various degrees of success.³⁴ However, even today it is only sporadically discussed in military doctrines and there is no methodology available for a systematic application. Consequently, it is not yet clear how effects and mechanisms relate to objectives and strategy.³⁵ The see the concept an evolutionary step that takes *objectives-based planning* and the *strategy-to-task* approach further. Although effects-based operations examine the conditions and causal linkages between actions and objectives, it is not the action itself that is important, but the causal linkages that determine whether or not a desired effect is achieved. Thus, the focus is on follow-on effects, and not on the probability of achieving the desired result as no action creates only one outcome.³⁶

Target destruction is still important, but only to the extent the destruction contributes to the achievement of various functional, systemic and psychological effects. An effects-based methodology might also mitigate negative collateral outcomes and other unwanted consequences. Although the fog and friction of war cannot be eliminated, a thorough examination of the causal linkages can improve the probability of success. Effects-based operations stand for a much broader approach than sheer military application. The requirement is to link all elements of national power explicitly and comprehensively across the full spectrum of activities. Victory in war comes from the harmony between the effects desired, the consequences of actions, and the means necessary for an assessment of the effects in question. The concept stands less for a conquest based on attrition and annihilation, but more for controlling the enemy's operational level systems and capabilities to limit his options at each level of war. This way it becomes possible to better integrate all elements of national power and exploit the advantage provided by modern technology. The result is less cost in resources and a transformation, which extends far beyond military operations. Although compliance through brute force remains an option to effects-based operations, operations of the 21st century should attempt to influence decisions and change behaviour with measures being systemic and psychological, rather than physical.³⁷

Complex interactions with the enemy and rapidly changing conditions require a continuous adaptation enabled by an interagency and multidisciplinary approach. A methodology to successfully apply effects-based operations can come from existing joint publications. The emphasis is on tightness in terms of planning, execution, and analysis that flows down from the national strategic to the tactical level. Enemies represent adaptive human organisations in which the challenge is to out-think and out-adapt adversaries. Effects-based operations replace the simple application of military force with the application of all elements of national power in an integrated and focused manner.³⁸

AIR UNIVERSITY CADRE

According to Mann et. al. from AU CADRE effects-based operations neither focus on conquest nor represent the displacement of current forms of warfare.³⁹ The concept can be seen as a refinement of the objectives-based methodology and the strategy-to-task approach. It allows planners to better examine conditions in terms of causality, in order to define the relationship between actions and objectives. Through the application of all elements of national power

³⁴AIR COMBAT COMMAND: Effects-Based Operations, White Paper, May 2002, p. 1-2.

³⁵AIR COMBAT COMMAND, ref. 34, p. 4.1

³⁶AIR COMBAT COMMAND, ref. 34, pp. 1-9.

³⁷AIR COMBAT COMMAND, ref. 34, pp. 10-17.

³⁸AIR COMBAT COMMAND, ref. 34, pp. 18-26.

³⁹MANN, Edward (Col., Ret.) and ENDERSBY, G. (Lt. Col., Ret.) and SEARLE, Tom: Thinking Effects, Effects-Based Methodology for Joint Operations, College for Aerospace Doctrine, Research and Education, Air University, Maxwell AFB, CADRE Papers No. 15, October 2002, p. 1; MANN, Edward (Col., Ret.) and ENDERSBY, G. (Lt. Col., Ret.) SEARLE, Tom: Dominant Effects: Effects-Based Joint Operations, Aerospace Power Journal, Fall 2001, [cit. 2002-09-27]. Available from: www.airpower.maxwell.af.mil/airchronicles/api/api01/vorfal01.html.

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across the full spectrum of a conflict, effects-based operations explicitly and comprehensively link strategic and operational objectives with tactical actions in a continuous and iterative fashion. Consequently, the focus is on desired effects that help achieve assigned objectives, which indicates a refocus from destruction.⁴⁰ Effects-based operations span across the full spectrum of political, military and humanitarian engagements. As a systematic approach, effects-based operations focus on outputs instead of inputs by emphasising national goals, and not capabilities or prerequisites of individual services and organisations.⁴¹

The concept is a new paradigm, according to which military actions are an extension of politics and diplomacy. In other words, military efficiency is often sacrificed for political concerns. The U.S. Air Force has always attempted to do effects-based operations, but only piecemeal without recording or codifying the lessons learned through its experiences. In effects-based operations, the destruction of targets is just means to achieve ends since physical destruction is only one desired effect within a wide spectrum. The emphasis is on the output through the application of both lethal and non-lethal means at the tactical level, which result in pre-determined direct and indirect effects at the operational and strategic levels. Due to their dual nature effects ripple and cascade through the enemy system as the effect of any given action may induce further changes. Virtually no part of the enemy system is truly isolated and the cumulative and cascading character of effects means that it becomes increasingly difficult to predict and measure higher-order effects.⁴²

In the framework of effects-based operations traditional approaches such as attrition and annihilation are specific types of outcomes, which might be useful only in some cases, as the real goal is to achieve high-level psychological effects. Effects-based operations can be defined as "actions taken against enemy systems designed to achieve specific effects that contribute directly to desired military and political outcomes."⁴³ The definition emphasises the importance of conditions and causal linkages through which actions lead to stated objectives. Effects-based operations always mean further asking and accepting unexpected effects in which the emphasis is on the ability to deal with complex interactions, adaptation to changing conditions, and turning initial shortcomings into an advantage. Unfortunately, despite deep roots and the power of effects-based operations, the military has never really attempted to institutionalize a thought process that is needed to ensure adherence to effects-based principles.⁴⁴

CONCLUSION

Any sober theory of warfare must take into account that waging war is an act that has always been more than linking ends with means in a simple deductive fashion, by detecting obvious causality at the strategic level in the form of desired or decisive effects. Most approaches reflected a mindset consisting of deductive reductionism and causal laws. The underlying assumption was that war displays order and equilibrium, the possibility for rational choice, and the ability to steer and control events. Although war can be described in general terms using causal relationships, effects that go beyond the immediate spatial and temporal levels cannot be predicted with any accuracy. It is possible to only predict things that are local to us both in space and time. Therefore we must be satisfied with understanding certain general features in terms of correlation, rather than trying to find a mechanism that links causes with effects directly.

Information superiority and technological sophistication are at the very heart of every document on EBO/EBAO. However, these can best be seen as enabler, but not as ultimate leverage. Consequently the assumed advantages of effects-based operations can often mean no advantage at all. War is full with emerging opportunities that can only help explain qualitative behaviour, but never accurately predict futures in terms of desired effects. Nevertheless a first glance the concept of EBO/EBAO appears to be weighty both in scope and insight as it draws on a diverse array of ideas in

⁴⁰MANN, Edward (Col., Ret.) et. al., ref. 39 (2002), pp. 1-3; MANN, Edward (Col., Ret.) et. al., ref. 39 (2001).

⁴¹MANN, Edward (Col., Ret.) et. al., ref. 39 (2002), pp. 4-6; MANN, Edward (Col., Ret.) et. al., ref. 39 (2001).

⁴²MANN, Edward (Col., Ret.) et. al., ref. 39 (2002), pp. 25-34.

⁴³Quotation in MANN, Edward (Col., Ret.) et. al., ref. 39 (2001).

⁴⁴MANN, Edward (Col., Ret.) et. al., ref. 39 (2002), pp. 42-55; MANN, Edward (Col., Ret.) et. al., ref. 39 (2001).

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order to generate hypotheses about success in war. It is very difficult however, to deliver arguments for why certain factors should be regarded as more important than others. Even deductive thinking and analytical rationality do not make possible to distinguish sufficiently among various alternatives and cannot explain the preference for certain selected factors.

Most documents on EBO/EBAO read like an accumulation of disparate and scattered statements lacking a true theoretical basis. The central argument is nothing more than simple and uncritical descriptions of positive findings. Rigidity and blind adherence to predefined objectives can result in mounting costs both in terms of money and men. An exclusive focus on the strategic level only narrows exploitable tactical options. They address international security problems in quantitative and technological terms wrapped in an empty concept and by doing this they deliver a simplification of war. In sum, there were many reasons to become sceptical regarding the practical utility of effects-based operations, which explains why the concept is not in the discussion anymore.

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