The Effects-based concept, MNE 3 and NMOs: an experimental analysis

Robert Grossman-Vermaas, Department of National Defence (Canada)

Operational Research Division
Strategic Analysis Research Team
National Defence Headquarters, 101 Colonel By Drive
Ottawa, ON, Canada, K1N 0K2
613 990 7436
grossman-vermaas.rj@forces.gc.ca

Abstract

An epigraph in a recent article in the *Economist* is illustrative: 'Problems, problems' it opens, only to describe in depth the litany of problems that have developed following the Coalition intervention into Iraq:

> Patchy public services, continuing guerrilla attacks on coalition troops, widespread criminality, confusion over oil revenues and the financing of reconstruction, and still no sign of a home-grown government—just some of the problems facing Iraq's interim leaders.

The traditional 'military' approach is incapable of accurately perceiving, or forecasting, the results of such a chosen strategy. It is an approach incapable of delivering what should ultimately appear to the decision maker the desired strategic end-states, or, 'effects', on selected political, military, economic, social and developmental systems.

What has become clear in the months following the Coalition invasion of Iraq, is that there was little, if any, predetermined strategic course of action that recognized the complexity of modern conflict. There was also no attempt to mitigate potential post-traditional combat threats through the inclusion of non-military members in the operational decision making structure.

This paper is suggestive. It will argue that the Effects Based approach provides conceptual affirmation that for successful future multinational operational crisis planning and execution, there must first be in place a holistic, and integrated, command and control structure (C2) that is capable of understanding the conflict environment as a complex system of systems. This structure will be composed both of military and non-military organization (NMO) components.

'Discourse of action: Command, Control, Conflict and the Effects Based Approach'

Robert Grossman-Vermaas[1], Department of National Defence (Canada) and Department of War Studies, King's College London (UK)[2]

INTRODUCTION

An epigraph in a recent article in the *Economist* is illustrative: 'Problems, problems' it opens, only to describe in depth the litany of problems that have developed following the Coalition intervention into Iraq:

> Patchy public services, continuing guerrilla attacks on coalition troops, widespread criminality, confusion over oil revenues and the financing of reconstruction, and still no sign of a home-grown government—just some of the problems facing Iraq's interim leaders.[3]

The article continues, 'did the Bush administration spend too much time thinking about how to secure military victory, and too little working out what to do with the country once Saddam Hussein had been removed?'[4] Edward Luttwak amplifies this sentiment, calling the Coalition strategy in Iraq a 'childish deception' with 'hugely ambitious aims' and 'unwinnable goals'.[5] Further, former US Secretary of State Madeline Albright has claimed in a recent article in *Foreign Affairs* that the Bush Administration has, with its expanded war in Iraq, alienated many potential allies and has, in turn, made the global fight against terrorism all the more difficult to win.[6] At their core, these articles question a traditional, and decidedly Western 'military', approach to conflict. This traditional approach is incapable of accurately perceiving, or forecasting, the results of such a chosen strategy. It is an approach incapable of delivering what should ultimately appear to the decision maker the desired strategic end-states, or, 'effects', on selected political, military, economic, social and developmental systems.[7]

It has become clear in the months following the Coalition invasion of Iraq that there was little, if any, predetermined strategic course of action that recognized the complexity of modern conflict. There was no attempt to mitigate potential post-

---

[1] Previous publications have been under the former surname of Hodgins-Vermaas.

[2] Portions of this paper were presented for an Operational Research Division Research Note for the Department of Defence (Canada) and for the Royal United Services Institute (UK), *World Defence Systems*.

[3] The Economist Global Agenda, *Economist*, Web edition, www.economist.com, 2 July 2003, p. 1. Accessed, 2 July 2003.

[4] *Ibid.*

[5] Edward Luttwak, 'Digging out from disaster', *The Globe and Mail*, 21 August 2003, p. A17.

[6] Madeline K. Albright, 'Bridges, Bombs, or Bluster?', *Foreign Affairs*, Volume 82, Number 5, pp. 2-20.

[7] The 'traditional' method of warfare and its pursuit in Iraq has been analyzed further in several newspaper editorials see, 'Comment and Analysis' section of *Financial Times*, 30 June 2003, p. 13; R.W. Apple, 'A New Way of Warfare Leaves Behind an Abundance of Loose Ends', *New York Times*, p. B1, B14; BBC News, 'US Plans for Iraq 'Flawed'', Web Edition, www.bbc.co.uk, 26 June 2003. Accessed, 26 June 2003; Jim Hoagland, 'The War Isn't Over', *Washington Post*, 22 May 2003, p. A35; Thomas E. Ricks, 'U.S. Alters Tactics in Baghdad Occupation', *Washington Post*, 25 May 2003, p. A1, A18.

traditional combat threats through the inclusion of non-military members in the operational decision making structure.[8] Indeed, months before the invasion, Office of the Secretary of Defense (OSD) and Pentagon planning staffs repeatedly dismissed interagency efforts to plan for post-combat Iraq. USAID, and several Non-Governmental Organizations (NGOs) were rebuffed alongside the more traditional Central Intelligence Agency (CIA) and the National War College. Hastily formed to explore post-war reconstruction and social efforts, the interagency Iraq Working Group was successively repelled by Donald Rumsfeld and his deputy, Paul Wolfowitz, because, they were told, 'the President has already spent an hour on the humanitarian issues'.[9]

This paper is suggestive. It will argue that the Effects Based approach provides conceptual affirmation that for successful future multinational operational crisis planning and execution, there must first be in place a holistic, and integrated, command and control structure that is capable of understanding the conflict environment as a complex system of systems. As such it rests on the following premises:

- the nature of conflict has changed dramatically since the end of the Cold War;
- conflict, and the environment(s) in which it is waged can be explored as fluid systems of systems, or, complex adaptive systems in which participants must understand the systems and adapt readily to shifts within these systems;
- this change, or shift, in conflict has both enabled and necessitated the inclusion of *ad hoc* command and control arrangements and tailored structures that include the integration of non-military actors for conflict planning, mitigation, resolution, and termination;

The first section of the paper provides an introduction to the concepts associated with the multinational Effects Based approach. The second section frames these concepts in complexity theory. The reasons for the inclusion of this section are two-fold. First, it is essential that one is able to conceptualize the logic (and at times illogic) behind the Effects Based approach before one attempts to operationalize it. Second, the operationalization of the approach requires some understanding of complexity, causality and the complexity of actions over time and space. Thus, the operationalization of the Effects Based approach has, as a *functional* requirement, compelling need to codify that which is traditionally non-linear, i.e., conflict. The third section of the paper examines the Effects Based approach and interagency efforts experimentally. Using the case study of Multinational Experiment 3 (MNE 3), the paper will analyze how United States Joint Forces Command (USJFCOM) and its experimental allies, explored coalition Effects Based Planning (EBP) in a complex systems scenario. The fourth section will dissect the conceptual and practical implications that have emerged following the experiment. Effects Based Operations should by their very nature, be planned, guided, and commanded by a command and control (C2) structure that includes civilian injects. Coalition armed forces therefore must adapt to the complexity of modern conflict

[8] James Fallows, 'Blind into Baghdad', *The Atlantic Monthly*, January/February 2004, pp. 52-74.
[9] Ibid, p. 69.

through the establishment of civil-military operational command and control structures. The concluding section reiterates the arguments presented and expands upon areas for further exploration.

WHAT IS THE EFFECTS BASED APPROACH?

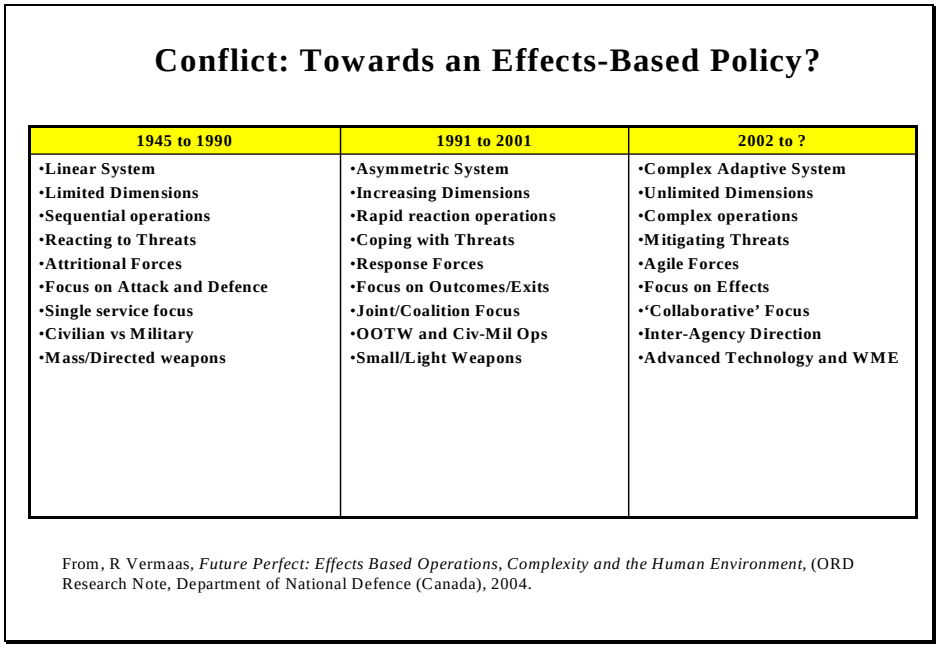
During the Cold War, the dominant principle of Western military planning was the ability to mass forces at key points whilst preventing or deterring an adversary from doing the same.[10] Success in battle, then, was understood by strategists and operators alike to depend on the ability to overcome the adversary in a lengthy war of attrition. However, the nature of conflict has clearly changed since 1991. Conflict is no longer limited to attritional, linear battlefronts and mass manoeuvre. As clearly demonstrated during recent events in Afghanistan and Iraq, the historic focus on achieving military superiority at the strategic, operational or tactical levels should be considered perfunctory steps towards the achievement of strategic military, economic and diplomatic aims.[11] Increasingly, conflict has become akin to a complex adaptive system that operates within the complex environments of terrorism, peace support operations, and regime change. Moreover, the complexity of warfare has come to include cyberspace, the nano-dimension, space, and the biological and chemical environments. Conflict has shifted from being a linear system where military powers smash away at each other until one is far too bloodied to continue, to fluid, unpredictable operations where agile and manoeuvrable forces function alongside civilians in order to achieve, one would hope, a shared operational and strategic aim. Operations to attend to such threats will, therefore, require an equally adaptive approach. (Figure 1.)

The concepts within the Effects Based approach are linked to an effort to leverage a nation's (or a coalition's) strategic capabilities at the political, economic, technological, and information networking levels in order to achieve politically satisfactory outcomes for a nation or coalition. They are, at the same time, intrinsically *psychological*, linking proposed actions to achieve physical *and* psychological results at the operational level. Here, psychological results may include the ability to affect an adversary's *will* to act, or, the ability to affect through dissuasion or deterrence an ability to act *in some way*.

---

[10] Desmond Saunders-Newton and Aaron B. Frank, 'Effects-Based Operations: Building the Analytical Tools', *Defense Horizons*, Center for Technology and National Security Policy, National Defense University, Number 19, October 2002.

[11] The threat of asymmetric retaliation and guerrilla warfare (slowly) persuaded Coalition forces to re-assess strategic options in Iraq in the spring of 2003. See, Edmund L. Andrews and Patrick E. Tyler, 'An Iraqis' Disaffection Grows, U.S. Offers Them a Greater Political Role, *New York Times*, 7 June 2003, p. A8.



Conflict: Towards an Effects-Based Policy?

1945 to 1990	1991 to 2001	2002 to ?
•Linear System	•Asymmetric System	•Complex Adaptive System
•Limited Dimensions	•Increasing Dimensions	•Unlimited Dimensions
•Sequential operations	•Rapid reaction operations	•Complex operations
•Reacting to Threats	•Coping with Threats	•Mitigating Threats
•Attritional Forces	•Response Forces	•Agile Forces
•Focus on Attack and Defence	•Focus on Outcomes/Exits	•Focus on Effects
•Single service focus	•Joint/Coalition Focus	•'Collaborative' Focus
•Civilian vs Military	•OOTW and Civ-Mil Ops	•Inter-Agency Direction
•Mass/Directed weapons	•Small/Light Weapons	•Advanced Technology and WME

From, R Vermaas, *Future Perfect: Effects Based Operations, Complexity and the Human Environment*, (ORD Research Note, Department of National Defence (Canada), 2004.

Figure 1.: Conflict Shift and Complexity.
The nature of conflict has changed dramatically since the end of the Cold War. In the future, both decision makers and operators alike are more likely to experience increased complexity (not to mention cross-over) in military, diplomatic, and economic operations.

Secondly, and again theoretically, the concepts seek to control the duration and gravity of a crisis or conflict, allowing participants to achieve strategic objectives at a minimal cost. There is a conscious effort on the part of decision makers to achieve desired effects, which may be pursued under the primary objectives of physical and psychological effectiveness.[12] This juxtaposition of effectiveness can incorporate quantitative and qualitative measures and must consider the relative relationships between cascading, unintended, or unwanted secondary and tertiary effects. As such, it is very much rooted in theories of complexity and complex adaptive systems, as well as theoretical causality. This relationship is explored further below.

Focusing merely on the degradation of an adversary's military combat power does not represent a holistic approach to future operations. These operations will likely place increasing emphasis on establishing *influence* over the *mind* of an adversary whilst keeping casualties and collateral damage to a minimum. Arguably, an Effects Based approach may enable desired aims to be achieved without the need for attritional warfare, although success is more likely to be achieved through a combination of both physical and psychological effects. Of course, a credible war-fighting capability must always buttress psychological capabilities. In many nations, for example, the defensive capability is, arguably, one component of a reductionist pillar of the three-dimensional principles of foreign affairs that include diplomacy, defence and development. This is

[12] Desmond Saunders-Newton and Aaron B. Frank, 'Effects-Based Operations: Building the Analytical Tools', *Defense Horizons*, Number 19, October 2002, p. 1.

known as the 3D defensive policy. Here, strategic success will rely on being able to identify the end-states, or *effects*, that will lead to campaign success and to deploy the optimum mix of capabilities with which to achieve them. Clearly, values may dictate that operations include complementary diplomatic measures such as sanction, financial incentives, and trade-offs, just as easily as the deployment of an infantry brigade. Alternatively, of course, actions may include the defence option at a level equal to or greater than the use of developmental aid and reconstruction assistance.

The achievement of a long-term strategic aim necessitates that planners develop a better appreciation of increasingly complex human networks and the linkages, or edges, that connect points of interest. It also requires a significantly more sophisticated understanding of human values and mindsets over *time and space* as well as a multidimensional analysis of the primary and secondary 'nodes', or 'targets' to be affected during the course of operations.[13] In specifically operational military terms, a 'node' may be any selected person, place, thing, or social construct, identified by a planning team and may include, for example, a national or party leader; a military base; a non-governmental organization; or a power grid. However, in conceptual terms, a node may also be a social or religious movement; an international fund; a population indicator; or an economic indicator such as crop growth.

Thirdly, concepts include several definitions of the Effects Based approach 'operationalized' in the form of Effects Based Operations (EBO). EBO may be considered processes for obtaining a desired outcome or effect from an adversary, friendly or neutral through the synergistic and cumulative application of military and non-military capabilities at the tactical, operational and strategic levels.[14] Other definitions consider EBO as operations conceived, planned and executed within a systems framework that considers the full range of direct, indirect and additional cascading effects that may be achieved by the application of political, military, diplomatic or psychological instruments.[15] It is worth underscoring that EBO involves a broad range of activities, of which military action is only a subset. For example, if a nation or coalition has, as one of its strategic objectives, the establishment of a democratic regime in a formerly violent totalitarian region, there may be infinite (or permutated) operational level actions and resources needed to influence desired effects, including diplomatic, developmental, international organization (IO), inter-governmental

---

[13] R. David Smith, 'The Inapplicability of Principle: What Chaos Means for Social Science', *Behavioral Science*, Vol. 40, 1995, p. 22; Steven Guastello, *Chaos, Catastrophe, and Human Affairs: Application of Nonlinear Dynamics to Work, Organizations, and Social Evolution* Mahwah, NJ: Lawrence Erlbaum Associates, 1995.

[14] US J9 Experimentation, US Joint Forces Command (USJFCOM), working definition, 2002. See also draft of Effects Based Planning concept for Multinational Experiment 3, a joint concept between the UK Joint Doctrine and Concepts Centre (JDCC), the Canadian Forces Experimentation Centre (CFEC), the German Bundeswehr, France, NATO ACT, Australian Defence Science and Technology Organisation (DSTO), August 2003.

[15] Paul K. Davis, *Effects-Based Operations: A Grand Challenge for the Analytical Community* (Santa Monica, CA: RAND, 2001), RAND MR-1477-USJFCOM/AF, 2001

organization (IGO), and non-governmental organizations (NGO) involvement.[16] Unfortunately, as will be seen below, there has been little more than transparent gestures made by military theorists to include the 'other' instruments of power into command and control structures for EBO. Moreover, there has been little attempt made to incorporate these levels of influence into a prototypical effects based headquarters. If indeed EBO may be defined as the combined direct and indirect administration of *any* means at the nation's disposal applied in a synergistic manner in order to elicit a desired strategic outcome, there is a long way to go before operationalization of the concept. It is imperative that planners think rigorously about the orchestration of effects and proposed actions and resources needed to achieve them, i.e., what is needed to achieve the above proposed effect(s): diplomacy; military action; financial incentive?

Alas, the Effects Based approach, and its operational form, EBO, are still concepts in infancy. They have not yet advanced to a mature experimentation phase, nor have they been developed adequately enough to consider immediate implementation.[17] Operationalizing the approach will require the maturation of the appropriate theoretical and analytical frameworks, both of which consider a holistic spectrum of conflict that includes political, military, economic, social, legal and ethical and infrastructure and information segments. This framework (or frameworks) and associated methodologies will enable decision makers to plan for activities and operations more effectively and then to adapt plans as situations evolve. Future operations that reflect the principles of the Effects Based approach will, by their very nature, require political and military leadership to both *anticipate and understand* the consequences of actions. Decision makers will require a framework that integrates concepts such as the explicit linking of actions to resources and actions to effects. Decision makers will also require a framework that relates actions to national strategy, the continuing assessment of operational outcomes and intended and unintended consequences, the coordination and optimization of interagency efforts and the effective use of enabling operational concepts such as network-enabled capabilities and the US-derived Operational Net Assessment (ONA).

Information Assessments

A critical component of the Effects Based approach is the ability to understand the operational space, or environment, as a complex system of systems in which adversary,

[16] An example of an IO is the United Nations; an example of an IGO is the Association of South East Asian Nations (ASEAN); an example of an NGO is Amnesty International. The distinction between an IO and an IGO are sometimes blurred.

[17] It should be noted that while the EBO concept requires further refinement, there are a number of multinational and Canadian initiatives in place that are investigating the 'sub-concepts' involved in the Effects Based Approach. Canada has been involved in the conceptual development, analysis, technological development, experiment design, and participatory phases of Limited Objective Experiment II (LOE II) and Multinational Experiment III (MNE III). The former experiment was conducted in February 2002 and addressed multinational information sharing in 'real-time' over a secure Collaborative Information Environment (CIE) and the development of a multinational ONA database; the latter, which takes place in February 2003, explores the technological, organizational and process requirements for multinational Effects Based Planning (EBP) and coalition development of a robust ONA database. MNE 4 is scheduled for the summer of 2006 and will be an experiment on the conduct of an Effects Based Operation.

friendly, and neutral all reside, and, therefore to be able to mitigate potential threats and, ideally, to be able to exploit network linkages between points of interest. Although equally immature, this concept has achieved some development in several nations. In the US, the concept has developed as the Operational Net Assessment (ONA). Ambitious proponents of the ONA expect it will provide effects based planners with a continuously updated analysis of adversary, allied, or neutral capabilities during a limited number of courses of action (COA) that a state or coalition may take. Underlying it is both a process and a database that includes an assessment of *all* national or coalition assets and incorporates analytical expertise of the strategic and operational context that shapes it.[18] A functional ONA reflects a constantly refreshed national (or international) analysis of political, military, economic, social, infrastructure and informational systems relating to the proposed COA. The systems, and their interaction, are an integral component to understanding how to plan and execute EBO. (Figure 2.) The information assessment process is ideally developed through collaborative intelligence and information sharing arrangements between academia, government and treasury intelligence services, NGOs, IGOs, corporations, and defence establishments and the use of technology accommodating geographical dispersion.

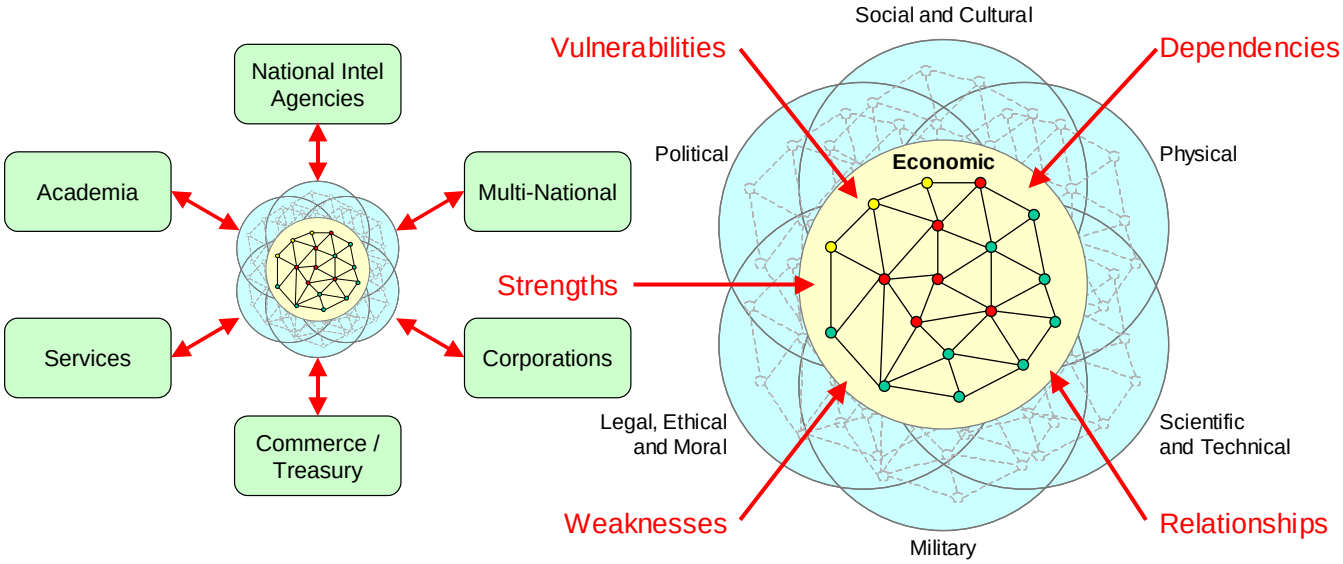


Figure 2: Theoretically, an information assessment requires inputs from a wide range of political, economic, social, intelligence, technological, infrastructure specialists in order to make an assessment of strengths and vulnerabilities within a 'system of systems'. The weaknesses and vulnerabilities within the system are then exploited to induce effects.[19] Source of graphic, *USJFCOM, Rock Drill Draft, Concept of Operations for Multinational Experiment 3, 3 Nov 03.*

The nature of the strategic environment mandates the Effects Based Approach adopt a global posture. This necessitates ready access to an assessment that contains information

[18] Keith P. Curtis, *Multinational Information Sharing and Collaborative Planning Limited Objective Experiments*, MITRE Corporation, 2001, p. 3.
[19] Source of graphic:

gathered from national, international and coalition sources. National information may be derived from a broad range of classified and unclassified sources and requires for successful application a strong inter-agency collaborative process. This requirement is sometimes encumbered by traditional bureaucratic structure. For example, in Canada, there are a number of departments and agencies that develop security and development policy, including, but not limited to, the Privy Council Office (PCO), the Department of Foreign Affairs and International Trade, the Solicitor General, the RCMP, Health Canada, Transport Canada, and the Department of National Defence.[20] In the United Kingdom, there have been several historical civil-military amalgams: this trend is fostered by the existence of a forceful Department for International Development (DFID) that assesses conflict and some security issues that usually fall within the remit of the Ministry of Defence (MoD) and the Foreign and Commonwealth Office (FCO). Of course, while each of these departments may share a unified strategic aim, there may be varied interpretations of how best to achieve that aim.[21]

In order to develop an Effects Based approach nationally, or internationally, there is a requirement for strong interagency cooperation and coordination. Arguably, at present, this requirement is at best superficially implied, or at worst, simply ignored. The reasons for this are far too diverse for this paper; suffice it to say, there is a challenge ahead for several governments, agencies and departments. For example, should a severe humanitarian crisis develop abroad, it is generally understood that there would be a certain level of cooperation and coordination between a number of associated agencies and departments, including the departments of defence, departments of foreign affairs and departments of international development. It is also understood that decision making would indeed take place in some collaborative fashion. However, it is also current practice that such decision making and collaboration would be, for the most part, superficial, and would therefore fail to provide an adequate assessment of the cascading effects of potential actions and capabilities when decisions are made. Moreover, although decisions would be made collaboratively, at least in spirit, it is unlikely that such decisions would be made based on the most holistic set of information available; nor would they be made in the sufficient time. This is a challenge to overcome and one exponentially more complicated given the dynamics of a coalition environment.

The Effects Based approach envisages strong inter-agency coordination and assistance in developing and maintaining a fluid information assessment, creating potential 'effects' and actions linkages, and pursuing actions based on capabilities. The United States has explored the Standing Joint Forces Headquarters (SJFHQ) concept, which is, to date, now in its prototype phase. The SJFHQ concept has, at its core, a combat commander with 'reach-back' capability to knowledge and planning-specific Boards, Centres and Cells and, more importantly, to a Joint Inter-Agency Coordination Group (JIACG). This is an innovative approach to decision making, one which places some emphasis on the role of other government departments in the decisions making process. As will be discussed

[20] See Conference of Defence Association Institute, *A Nation at Risk* (Ottawa, ON: 2002).
[21] Alice Hills, 'Hearts and Minds or Search and Destroy: Controlling Civilians in Urban Operations', *Small Wars and Insurgencies*, Volume 13, Number 1 (Spring 2002), p. 7.

below, however, alternative concepts of command and control give an even greater emphasis to the interagency role in decision making for crisis.

Once a unified strategic aim has been developed and an information assessment of desired end-states and the means to achieve them has been agreed upon, a representation of the real world is generated that allows the operational environment to be considered as a complex adaptive system (CAS). From this understanding, the planning process can be properly configured to ensure that the right information gets to the right people at the right time. EBO seeks to assure decision superiority by improving one's (or one's allies) information posture, whilst manipulating another's position in order to exploit every opportunity to increase the speed and accuracy of operations.[22] Decision making will involve an assessment of the multitude of possible (and probable) outcomes or goals which 'include the assurance of "beyond first-order" effects on the agents, institutions, technologies, and motivations that constitute an adversary's infrastructure, as well as on the global state of the socio-physical systems that comprise the adversary and international system'.[23]

In summary, information assessments hope to provide a more comprehensive and more adaptive understanding of the nature, structure, and vulnerabilities between key critical nodes or targets in a 'system of systems'. Assessments should therefore be continually updated to support an ongoing planning process for each selected contingency.

CONFLICT AND COMPLEXITY

The most direct implications of the Effects Based approach in the future are likely to lie in the areas of command and control (C2). That said, the Effects Based approach relies on an understanding of complexity, causality, networking and complex adaptive systems (CAS) theory. The Effects Based approach and complexity theory both deal with how a widely distributed collection of diverse autonomous agents acting individually can nonetheless behave like a single, even directed, entity.[24] Alternatively, traditional (Newtonian) science has always provided metaphors and models for isolated military concepts and, even more fundamentally, it has provided *the* general paradigm that has classified Western culture. This paradigm shapes both our interpretation of the problems we face and the solutions we generate to those problems. It is mechanistic, measurable, and reliable.[25]

The traditional Western way of warfare has been as heavily informed by Newtonian principles. As such, it would follow that, like other events, warfare is deterministically predictable—given knowledge of the initial conditions and having identified the

[22] Decision superiority is the application of knowledge by leaders to make the highest quality decisions directing assigned resources such that they maintain operational flexibility and agility. With its roots in the OODA loop, this concept includes psychological determinants such as will, capability and intent.
[23] Saunders-Newton and Frank, *ibid*, p.3.
[24] Paul Davis and Brian Michael Jenkins, 'The Influence Component of Counterterrorism: A Systems Approach', *RAND Review*, Spring 2003, Web edition, www.rand.org. Accessed, 7 May 2003.
[25] See, for example, arguments presented in Murray Gell-Mann, *The Quark and the Jaguar* (London: Abacus, 1994), pp. 84-85. Note also that Gell-Mann also considers the rarity of revolutionary scientific paradigm shifts (as defined and extrapolated by Thomas Kuhn in *The Structure of Scientific Revolutions*.)

universal laws of combat, one should be able to resolve specific political and military issues and predict the results. Indeed, for argument's sake, all Newtonian systems can eventually be distilled to one concept: linear *cause and effect*. In fact, such efforts to quantify cause and effect in war have been numerous, with some recent methodologies including those used in the Correlates of War (COW) Project[26]. All this to say that the more one wishes to understand conflict, the more willing one is to accept the use of quantifiable means to assist us in an understanding. This implies that war is altogether 'knowable' and that which we cannot directly understand, we should be able to extrapolate scientifically. Unfortunately, this paradigm is limited when applied to the Effects Based approach and the complex nature of future conflict.

The marriage of complexity theory to international security studies should come as no surprise. Indeed, since the September 11th terrorist attacks,[27] there has been increasing focus on non-linear theories as ways to help us understand, and mitigate, unpredictable and complex adaptive systems such as terrorism.[28] Complexity theory, then, can be viewed as an innate form for investigating the properties and behaviour of the dynamics of non-linear systems, such as warfare.[29] This stands in contrast to traditional methods within the theoretical domain designed to analyze the relatively non-linear world, such as statistics.

As we know, linear systems portray an arrangement of nature (with all of its warts and foibles) where outputs are proportional to inputs, where the whole is equal to the sum of its parts, and where cause and effect are directly (or through inductive reasoning) observable. According to David Alberts, it is a scientific environment where prediction is facilitated by planning; success is pursued by detailed monitoring; and a 'premium is placed upon reductionism, rewarding those who excel in reductionist processes', in which large swaths of data are reduced to manageable morsels.[30] By contrast, non-linear systems consider the arrangement of nature, with all of its complications (including warfare), as an environment where inputs and outputs are not proportional; where the whole is not quantitatively equal to its parts; and, where cause and effect are not immediately visible.[31] It is the world of modern conflict—where phenomena are not

---

[26] J. David Singer and Paul F. Diehl, (eds.), *Measuring the Correlates of War* (Ann Arbor, MI: University of Michigan Press, 1990).
[27] United States, Department of Defense, *Quadrennial Defense Review Report*, 30 September 2001, p. 14.
[28] Ironically, it is rather late to arrive when compared to its use in fields such as economics, management, ecology, biology and physics. See for example, Dana Mackenzie, 'The Science of Surprise: Can complexity theory help us understand the real consequences of a convoluted event like September 11?', *Discover*, Web edition, www.discover.com/feb_02/featsurprise.htm. Accessed 8 July 2003.
[29] Douglas A. Van Belle, 'Unexpected Innovation: Lessons from Simulating Complex Anarchical Environments Over the Internet', *Van Belle*, Volume 22, Number 2, p. 18, Web edition, http://csf.colorado.edu/isa/isn/VANBELLE.html.
[30] David Alberts, *Complexity, Global Politics and National Security* (Washington, DC: CCRP/Institute for National Strategic Studies, 1997), p. xiii.
[31] M. Mitchell Waldrop, *Complexity: The Emerging Science at the Edge of Order and Chaos* (New York: Simon and Schuster, 1992).

visibly predictable but are self-organizing; where unpredictability defeats conventional methods; and, where self-organization defeats traditional control.[32]

It is clear that social interactions within political environments constitute systems and that the many outcomes within those systems are the consequences of complex interactions. In modern, effects based, conflict, we are dealing with a system (or system of systems) where:

a. a set of elements are inter-connected so that shifts in the system produce changes in other parts of the system and;

b. the entire system exhibits properties and behaviours that are related to but different from the sum of the parts.

The result of this is that systems display non-linear (and causal) relationships that cannot be understood by adding together the units or their relation. Indeed, many of the results of actions are unpredictable, unintended or unwanted.[33] Actions produce effects, but these effects may be neither the intended results of the action, nor what was wanted to achieve the overall objective.

International relations are full of inter-connections and complex interactions. Ripples move through channels established by interests and strategies.[34] Therefore, when these interactions are elaborate, or multidimensional, the ramifications will be as well.[35] Similarly, when planning EBO, one must consider, and mitigate, the wide array of potential, possible, and probable effects and cascading effects which may result from a single course of action. In a system, the chain of consequences extend over time and space and the effects of actions are always multiple. Any disturbance of a 'node' within the system, or the disturbance of a system within a system of systems, will produce several effects. Consequently, and contrary to all the hopes and aspirations of strategists, one cannot always find or develop *the* key agent which will produce *the* desired effect. For example, one cannot (nor should not) expect to link with linear methods one hundred years of scientific, economic, and cultural degrees to the events on September 11th. That is, a link from Ernest Rutherford to Albert Einstein to Robert Oppenheimer to Harry Truman to Joseph Stalin to Winston Churchill to Jawaharlal Nehru to Mohammad Ali Jinnah to Prince Mohammed Daoud to the Mujahideen to the Taliban to Osama bin Laden, although arguably causally sufficient is not causally logical in a non-linear system. Because of the prevalence of inter-connections, we cannot

---

[32] This argument has evolved, in part, from a University of Maryland project on complex adaptive systems. See, Kiersten Blair Johnson, 'The Development of Progressive and Sustainable Human Complex Adaptive Systems: Institutions, Organizations and Communities', 1999. Web edition, www.wam.umd.edu/~nafikiri/webcomplex.htm. Accessed, 17 June 2003.

[33] Robert Pool, 'Chaos Theory: How Big an Advance?', *Science*, Vol. 245, 9 July 1989.

[34] Note a study on modelling civil violence in Joshua M. Epstein, John D. Steinbrunner, Miles T. Parker, 'Modeling Civil Violence: An Agent-Based Computational Approach', *Center on Social and Economic Dynamics*, Working Paper, Number 20, January 2001.

[35] See also, Garrett Hardin, 'The Cybernetics of Competition', *Perspectives in Biology and Medicine*, Vol. 7, Autumn 1963, p. 80.

understand systems by simply summing-up the characteristics of the parts.[36] More precisely, actions interact to produce effects that cannot be readily comprehended by linear models.[37] Agreed, we may intuitively expect linear relationships, but this is not possible, particularly in warfare.[38] Moreover, the effect of one series of characteristics can depend heavily on what other characteristics are within the environment.[39] Interestingly, even if one were to hold true Michael Doyle's thesis that democracies do not fight each other in a world where other regimes exist, it would not hold true that an entirely democratic world would be a peaceful one.[40]

EBO are not linear; nor is the information assessment that that feeds them. They are conducted in an open, collaboratively distributed, non-linear system sensitive to initial conditions and characterized by complex, continuous feedback. Thus, EBO are a *process* rather than an event. The environment in which EBO operate, the 'system of systems', is an open system--continuously exchanging energy and information with other systems and with the strategic environment at large. EBO are in a continuous state of flux—they operate within the perpetuity of crisis, conflict and post-conflict resolution. Planners and decision makers must, therefore, be cognizant of interactions and linkages between nodes, or targets, within and between systems.

Complexity theory and causality theory, then, provide a fundamental theoretical background to the complex nature of conflict generally and the Effects Based approach specifically. The challenge is to apply this understanding to the operational planning levels.

COMPLEXITY, COMMAND AND CONTROL AND MNE 3

It is the changing role of military establishments that is an essential component to the effective pursuit of strategic and operational outcomes. The evolutions involved reflect the desire to move away from the traditional realist view of war as a tool of state to the desire to address conflict though the creation, and refinement, of inclusive civil-military networks. During, and immediately following, the first Gulf War of 1990-91, there was a marked shift in UN-military relationships. Peacekeeping operations emerged from the new security environment of post-Cold War era reflecting new demands and new challenges. Between 1989 and 1999 there were well over 40 instances of UN-sponsored intervention around the globe.[41] During this period, not only did multinational missions multiply, there were innovative in that they were complex and multi-levelled.

---

[36] Allan Beycheren, 'Nonlinear Science and the Unfolding of a New Intellectual Vision', in Richard Bjornson and Marilyn Waldman (eds.), *Papers in Comparative Studies*, Vol. 6. (Columbus, OH: Center for Comparative Studies in the Humanities, Ohio State University Press, 1989).

[37] Kenneth Waltz, *Theory of International Politics* (Reading, MA: Addison-Wessely, 1979); Charles Perrow, *Normal Accidents* (New York: Basic Books, 1984.

[38] Roger Beaumont, *War, Chaos, and History* (Westport, CT: Praeger, 1994).

[39] These may be linkages but not necessarily logically causal ones.

[40] Michael Doyle, 'Michael Doyle on the Democratic Peace', *International Security*, Volume 19, 1995, pp. 180-184; see also Robert Jervis, *ibid*, p. 52.

[41] See William Durch, *UN Peacekeeping, American Policy, and the Uncivil Wars of the 1990s* (London: Macmillan, 1997); Lawrence Freedman, *Military Intervention in European Conflicts* (Oxford: Blackwell, 1994).

The Centre for Defence Studies (CDS) at King's College London has correctly identified the five communities that are required in order for future responses to complex emergencies to be successful. These are, in no particular order: donor governments; armed forces; multilateral agencies; non-governmental organizations (NGOs); and private industry.[42] Although this list would benefit from the addition of academia and national and international intelligence agencies, these communities have become the main players in the pursuit of regional and global stability. However, this union of several seemingly disparate sources has had a long and turbulent history. In adapting to the new security environment of the post-Cold War era, each of these communities was compelled to adapt to fresh issues. This adaptation took several iterations, impacting organization, process, and, above all, policy. It was under the influence of the integration of development and security, and the privatization of these responsibilities, that linkages between the various areas and the networking between these communities developed as the most effective means to achieve the desired objective of stability.[43] Parties that were autonomous throughout the Cold War era now found new forms of 'synergy, overlap and mutual interest'.[44] Indeed, today new institutions have emerged, whilst existing ones have either changed their mandates or found that some assimilation through positive injection of thought and method have proved successful. Or have they?

This section will explore the integration of NMOs in the pursuit of effects based planning and operations. It will use Multinational Experiment 3 as a case study of how, at least experimentally, a coalition planned EBO. The analysis is critical, but it is not intended to deride the efficacy of multinational experimentation related to the Effects Based approach; on the contrary, it is designed to explore gaps in our collective understanding of what components are required for the practical application of the conceptual issues related to the Effects Based approach.

Practice Makes Perfect?

Multinational Experiment 3 (MNE 3) was a US directed and sponsored exploratory experiment that attempted to examine the processes, organization(s) and technologies required for an *ad hoc* coalition to plan an effects based operation within a complex system. The third in a series of four experiments related to coalition planning, information sharing and the Effects Based approach, MNE 3 was a 'virtual', exploration of a series of concepts under the general mantle of Effects Based Planning (EBP).[45] These 'sub-concepts' included, amongst many others, the (misnamed) Coalition Interagency Coordination Group (CIACG) in the EBP process, a construct designed, in part, to explore the necessary assimilation and integration of the defence and development communities.

---

[42] Karin von Hippel, *Democracy by Force: US Military Intervention of the post-Cold War World* (Cambridge: Cambridge University Press, 1999).
[43] Duffield, p. 52.
[44] Ibid.
[45] MNE 3 followed two previous USJFCOM multinational experiments, Limited Objective Experiment 1 (LOE 1) and LOE 2. The former explored C2 constructs; the latter, multinational information sharing and the development of Effects linkages based on an ONA.

The US experiment design team chose to explore the EBP concept within the construct of a Coalition Task Force (CTF) headquarters, one which mirrored the US Standing Joint Forces Headquarters (SJFHQ) organizational structure. There were several rational, and some not so rational, reasons for the inclusion of the SJFHQ construct into the experiment design. The most important for this discussion, however, was that it afforded the six Multinational Interoperability Council (MIC) participants (Australia, Canada, France, Germany, United Kingdom, United States), as well as the nascent NATO Response Force (NRF) the chance to explore the heavily endorsed efficacy of the US C2 construct within the confines of an analytical multinational experiment. The experiment operated within a Collaborative Information Environment (CIE). The CIE was part concept, part tool: a virtual portal where nations could contribute to the EBP process, draw information from the ONA, and share information or thoughts related to experiment topics or proceedings.

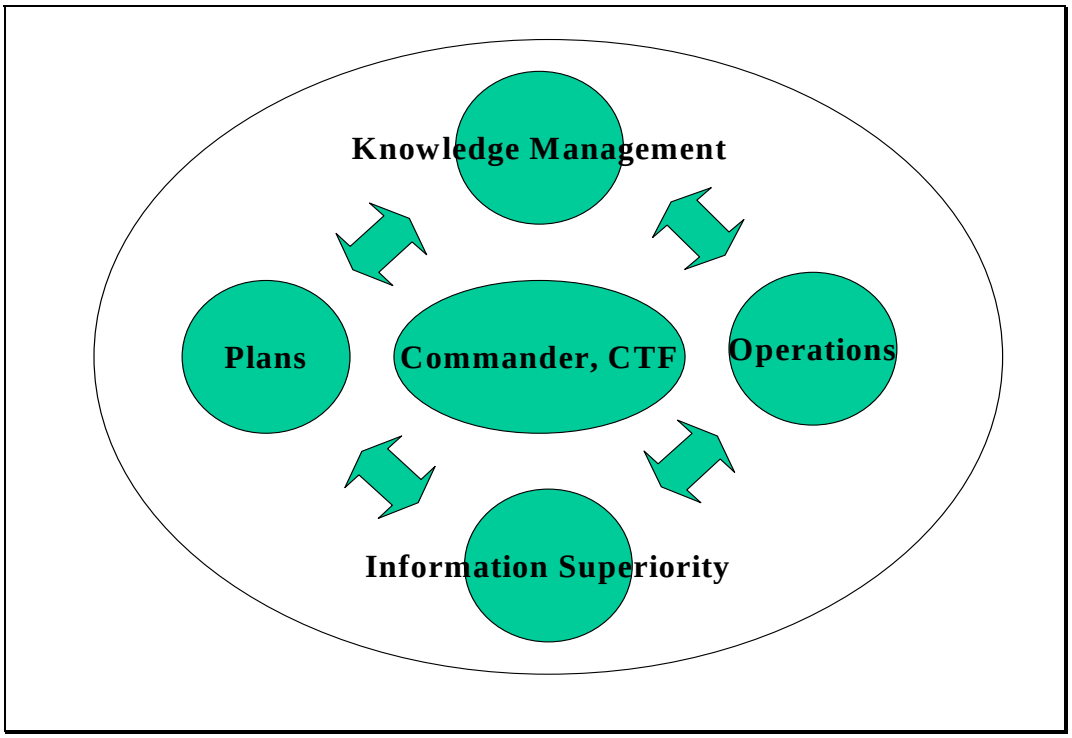


Figure 3: The generic Standing Joint Forces Headquarters (SJFHQ) construct affords the commander subject matter expertise and guidance towards the development of an Effects Based operational plan.

The SJFHQ construct is in the prototype phase, emerging from months of USJFCOM concept development work. The SJFHQ model consists of a small team of operational planners and information command and control specialists. These specialists then form the groundwork for the joint task force (JTF) command structure.[46] The construct

[46] USJFCOM, *Standing Joint Forces Headquarters*, USFCOM website, www.jfcom.mil/about/fact_sjfhq.htm. Accessed, 24 Mar 04.

envisages four specialist teams (Knowledge Management, Plans, Operations, Information Superiority) working collaboratively towards the development of an operational EBP. Although guided and commanded by the Commander, JTF (or Coalition Task Force—CTF), the four specialist teams work independently from the traditional hierarchical C2 relationship in order to provide what is hoped to be comprehensive operational plans. (Figure 3) Ideally, the SJFHQ attempts to provide a Regional Combatant Commander (RCC)[47] with focussed group of individuals with a high degree of knowledge of the particular contingency. Being operationally ready at short notice, one assumes that the moment a JTF is required by a RCC, all or part of the SJFHQ is assigned to and embedded within the RCC staff. Of course, the SJFHQ is not designed as a so-called 'standing joint task force' but instead as a standing constituent that analyses, advises on, and plans for, a specific operational area. Whilst operationally infeasible at the time of writing this paper, the SJFHQ construct has been given the highest priority for joint concept development and experimentation by the Joint Chiefs of Staff (JCS).

Expectations for the SJFHQ concept are high. It is anticipated that it will provide each (US) geographic commander with an informed C2 capability and situational understanding of the operational environment, therefore prompting a more efficient ONA and EBP process capable of delivering 'a rapid, decisive operation'.[48] Theoretically, the expertise provided by the SJFHQ affords the commander better pre-crisis planning, more timely situational awareness, and, one would hope, a more holistic understanding of the operational environment. Using the CIE (or some comparable portal), the SJFHQ is expected to develop and maintain knowledge of the environment through the establishment of habitual working relationships with interagency colleagues.

In practical, or at least in experimental, terms the hopes for a coalition friendly SJFHQ construct are equally high. The experiment design for MNE 3 envisaged each national participant being involved (or in some cases embedded) in the SJFHQ experiment equivalent: a Coalition Task Force Headquarters, or, CTFHQ.

As mentioned above, the SJFHQ construct purports to have a number of advantages for the EBP process and was thus applied to the MNE 3 experiment design. First, by using collaborative planning tools, the SJFHQ hopes to develop a pre-crisis knowledge base, or ONA, of the environment as a system of systems. Second, the HQ concept hopes to augment components already existent in current US command structures. Third, the HQ concept claims to incorporate mission-specific knowledge of the combatant commander's guidance and intent, the operational area of responsibility, and key players involved in the environment, or, system of systems. This is a very tall order indeed. But perhaps the most ambitious claim presented by proponents of the construct is that it must, inherently, maintain 'established habitual relationships through the combatant commanders to the interagency community'. Presumably, the reasons for this consideration are several, most

[47] The RCC construct is, of course, unique primarily to US C2 structure. This anomaly may create difficulty for multinational partners who wish to integrate into the SJFHQ construct.
[48] USJFCOM, *Standing Joint Forces Headquarters*, USFCOM website, www.jfcom.mil/about/fact_sjfhq.htm. Accessed, 24 Mar 04.

important of which is to aide the HQ in making appropriate decisions based on a more holistic understanding of the crisis or pre-crisis environment as a complex adaptive system (CAS), and, more importantly in the longer term, a more strategic understanding of the potential cascading effects that may occur at the operational level.

Non-military Organizations (NMOs) and MNE 3

The injection of a coalition interagency planning group into the experiment design for MNE 3 was a priority for the concept development and experimentation of EBO and EBP. Conceptually, the union of military and non-military components in operationally planning for an operational or strategic outcome, or, effect, is critical to the success of a mission. The exploration of this union is not only highly recommended, it is required for validation of the Effects Based approach.

A Coalition Interagency Coordination Group (CIACG) 'sub-concept', or construct, was incorporated into the design and play of MNE 3 and, as it turned out, was one of the more intellectually stimulating issues to be played. The CIACG construct had its genesis in USJFCOM discussion papers and concept evaluations related to the SJFHQ, although each national participant presented issues related to its own historical understanding of the inter-agency approach to pre-crisis and crisis decision making. But for USJFCOM, the construct began as a semi-integrated, although unfortunately not integral, advisory facility for the commander and planners in the course of campaign planning. Known as the Joint Interagency Coordination Group, or, JIACG, the concept claimed to 'establish operational connections between civilian and military departments and agencies that will improve planning and coordination within the government'.[49] At the national, or JIACG, level the group is a 'multi-functional, advisory element that represents the civilian departments and agencies and facilitates information sharing across the interagency community'.[50] Conceptually, it is expected to act as a liaison between civilian and military actors and supports the SJFHQ planners by advising on civilian agency operations and plans. It would also provide a so-called 'third-party' perspective on civilian agency approaches, capabilities and limitations that would need consideration for the development of an Effects Based approach that requires a coordinated use of national power. Presumably, when a JTF forms and deploys, a JIACG would extend this support to the commander's staff through the JFHQ political-military planning staff. This becomes the mechanism to plan the best mix of capabilities to achieve the desired effects that would include the range of diplomatic, information, military and economic (DIME) interagency activities. This is the conceptual basis for the CIACG; all that was needed was the chance to prove its functionality.

Throughout 2002 and 2003, the issue of disconnected operational planning for crisis intervention among agencies was addressed with the JCS initiative to establish a JIACG as a directorate within a RCC. Still, prior to implementation, the JIACG concept would benefit from further refinement, certainly at the national level, and, preferably, at the multinational level. It must be stated that today, there is no existing semblance of a

[49] USJFCOM, *MNE 3 Experiment Directive*, Version 2.6, 2003.
[50] Ibid.

coherent or cooperative operational planning structure that is multi-agency in nature or one that extends planning and coordination into the multilateral spheres that are involved in complex crisis response and action. In a legitimate attempt to address this problem, during MNE 3 the JIACG concept was expanded to include civilian agency representatives of the participating coalition countries. According to the Concept of Operations, the resultant CIACG was to focus on coordinating and harmonizing operational planning between the coalition military planners and the relevant civilian agencies or departments of their respective governments.[51] Thus, any difficulties envisaged for the establishment of a national interagency model were now exponential.

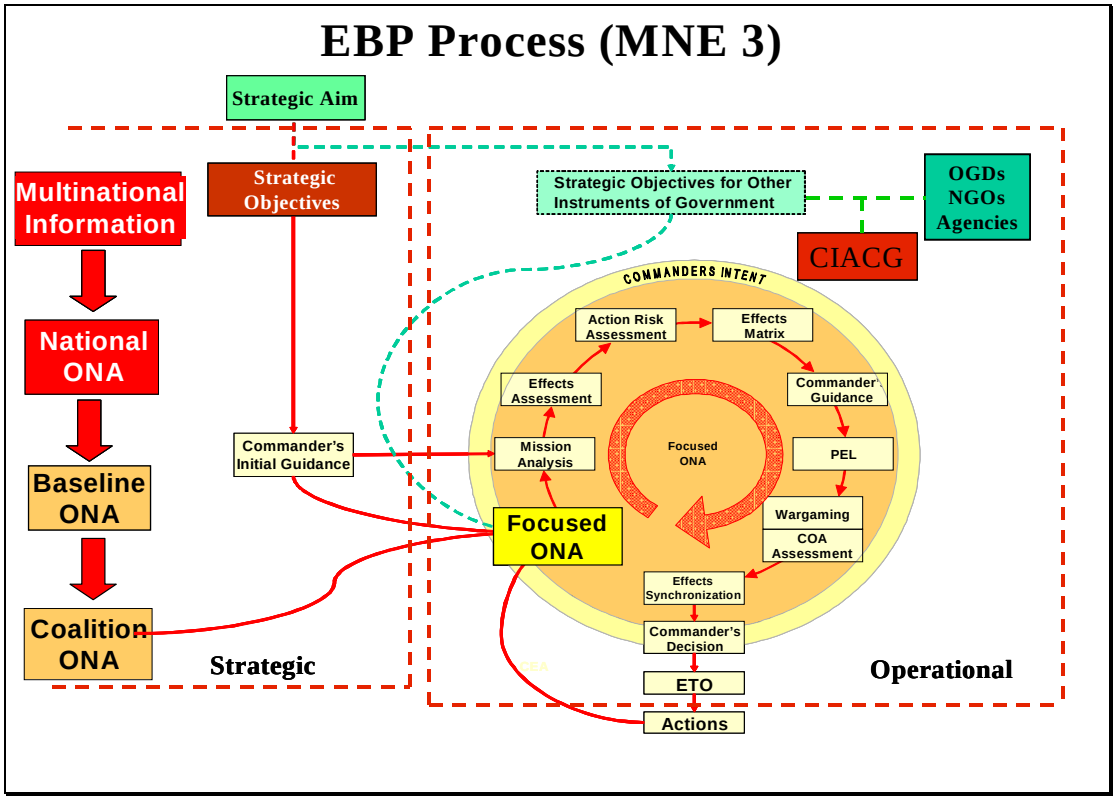


Figure 4: The EBP process steps for MNE 3. The CTF participants were to proceed through the operational steps (right side) in order to consider the appropriate effects, nodes, actions and resources that would sufficiently enable the coalition strategic aim. This process was to include several points where assistance, guidance, or advice could be offered by the CIACG.

[51] USJFCOM, DRAFT Combined Interagency Coordination Group (CIACG) Concept of Operation for MNE 3, Revision 1.1, 04 Sep 03, Improving Cooperation Among US and Coalition Military and Civilian Operational Planners in Crisis Intervention.

During MNE 3, the CTFHQ was presented with present day Afghanistan as experimental scenario. The scenario included, in its pre-experiment stages, a United Nations request for CTF intervention in order to stabilize the volatile situation in southern Afghanistan. Injects posited to the MNE 3 multinational players required the imposition of a CTFHQ that was prepared to conduct a pre-crisis EBP procedure in coordination with a CIACG. The CTF was to proceed though specific, although clearly conceptual, EBP steps that would result in an Effects Tasking Order (ETO). The ETO would be the culmination of the previous steps in the EBP process and would outline the effects based ways and means to enable the proposed coalition stability EBO.

Conceptually, the EBP process steps outline the operational 'steps' required to perform EBP within a coalition environment. (Figure 4) The process begins with CTF incorporation of strategic information into the operational level Focused ONA. CTFHQ would then proceed through the series of EBP steps towards the ETO.[52] What is particularly relevant about the MNE 3 EBP process steps was the anticipated role of the CIACG. The MNE 3 multinational EBP Concept of Operations (CONOPS) clearly indicates the relative importance of the CIACG in the EBP process and certainly during the initial and penultimate steps.[53] In hindsight, one wonders how a CIACG would operate in an Effects Based Planning process that hoped to achieve regional stability as a strategic objective within a complex adaptive system?

MNE 3 and the CIACG: More Questions than Answers

MNE 3 has demonstarted that the CIACG is an evolving concept in need of further refinement, and, exploitation. The USJFCOM intent for experimentation was to integrate and coordinate the activities and capabilities of multinational OGDs and other non-military, non-national governmental organizations and humanitarian, developmental and relief agencies, with that of the CTF. Intent was also to incorporate perspectives, sensitivities and support requirements. Indeed, the CONOPS for MNE 3 revealed detailed expectations for a more holistic crisis planning process than had previously been the case in multinational operations with a military strategic objective. This expectation was given a greater weighting by the choice of the Afghan stability operation scenario.

Due to its genesis in US military concept development, portions of the CONOPS for MNE 3 were inconsistent. At first glance, the CIACG appeared to emulate the role of the US Joint Interagency Coordination Group, or JIACG, for the Commander, CTF. For a national commitment, and in particular, a US national commitment, this approach may have been satisfactory. However, MNE 3 was specifically designed as a discovery experiment relating to a coalition planning process. Therefore, during play, it became clear that the role of CIACG was more complicated than the US-derived complement, the JIACG, and its relationship to the national command structure. Moreover, there were no clearly defined roles for the CIACG, either in experimentation, or as it related to the

[52] The analysis for MNE 3 is expected to be released in two forms: a national contingent report and a USJFCOM report. Each is scheduled for release in the spring of 2004.
[53] USJFCOM, Rock Drill Draft, Concept of Operations for Multinational Experiment 3, 3 Nov 03.

SJFHQ and its coalition counterpart, the CTFHQ. Conceptually, EBP demands a level of adaptability that equals, or at least attempts to mitigate, some of the complexity of conflict. This adaptability level requires the EBP process to develop plans according to shifts in the battlespace, or, environment. As such, there is a natural tendency for the CIACG (and its multinational components) and its relationship with CTF to adapt accordingly. On the other hand, at this stage of conceptual development, a more rigorous analysis of CIACG integration into CTF activities may be required. On one level, the CIACG was liaison between OGDs, IOs, IGOs and CTF; on another level CIACG provided specific guidance to Commander CTF during phases of the EBP process; at yet another level, CIACG provided planning and assistance though Subject Matter Experts (SMEs). This latter 'role' was perhaps the most contentious during the experiment: at what stage does a multinational interagency group limit its 'coordination' activities to that of advice rather than assistance? Perhaps NMO roles need refinement for each CTF contingency. However, core functions should be identified in common doctrine with the assumption that additional functions could be added as required.

Other questions to emerge from the experiment were: should NMOs be fully integrated into the CTF to provide EBP advice and/or contingency options? Should NMOs be present during CTF planning phases in order to provide perspective, advice and expert guidance on the probabilities of cascading effects and, therefore, on the success of the mission? During MNE 3, it became obvious that the CIACG operated at a much higher, indeed strategic, level than was initially anticipated. The group perceived itself as a conduit, or, often times, as a translator of higher strategic objectives. This being the case, the group felt particularly interested in developing perspectives on how best to achieve the desired strategic end states for the coalition. Discussion and debate often ensued regarding the direction and longevity of the stability operation: was it to end after a sixty-day combat operation? Was it to include developmental activities, humanitarian efforts, and the so-called 'soft' objectives? Whilst today this may be the way in which NMO groups may operate, during an EBP process and subsequent EBO, this uncertainty may, in fact, damage the proposed military effects that would enable some of the 'soft' objectives.

Finally, an NMO concept, and construct such as the CIACG, would presumably reflect the nation, or nations, that develop it. What this means is that national, cultural, sociological, organizational, and even psychological, issues are reflected in the composition, roles and even actions of the CIACG. This is a delicate balancing act, particularly at the multinational level. If the CIACG is to be a truly coalition construct, and therefore a reflection of many national interagency relationships strung together, there is a need for a rigorous (and lengthy) examination of these relationships prior to further experimentation.

CONCEPTUAL NMOs and MNE 3 – OBSERVATIONS

The EBP process, both conceptually and as developed for MNE 3, requires the involvement of a coalition NMO group for planning effects based operations. Future

concept development and refinement is strongly recommended. It should be noted, however, that the CIACG played a considerable role in MNE 3. Indeed, the experiment design and process steps were augmented throughout the two-week experiment to reflect CIACG injection. The impact of the CIACG on EBP was most apparent during the following process steps (Figure 4):

- *Commander's Initial Guidance* – the CIACG hoped to provide specific advice to the Commander, CTF, in order to frame his guidance in acceptable terms for interagency consumption, coordination and palatability. This is an important recognition (albeit slightly manufactured, given the artificiality of the experiment). One conclusion derived from the experiment is that future conceptual analysis for the integration of the CIACG in all planning developments should be initiated prior to the outset of the EBP process.
- *Effects Assessment; Actions Assessment and Priority Effects List (PEL)* – CIACG played an active role in assessing Effects and Actions, and played an integral role in debating the relative priority of one effect and/or action over another. Why kill when you can create? Alternatively, why assist when you can degrade, damage or depose?
- *Wargaming/COA/Synchronization* – Conceptually, these steps would require active coordination and reach-back through the CIACG. This was not successfully achieved during MNE 3. In order to maximize the synchronization of effects, however, CIACG SME is critical. Effect 'blowback', or at least the consideration of probable cascading effects and unwanted or unintended effects can only be determined with CIACG involvement in the planning process.

Recommendations

The CTF (and the coalition) must understand the status and authority of each associate member of the NMO group assigned to assist on the EBP process. In practice, therefore, it is recommended that governments issue their members with credentials formally outlining their authority within the CTF and between members of the CTF. Also, suitable arrangements to ensure accountability for CIACG actions are required commensurate with their allocated role. NMO injects into a CTFHQ are essential, but they must be held accountable for their planning decisions.

The MNE 3 CIACG was conceived to manage dialogue. It was envisaged that the CIACG should eventually assume the same sort of role with respect to non-official entities, e.g., NGOs and the media, which in present-day Afghanistan, are a major source of information for the West and a major source of influence for the Afghanis. This is an important point. In a volatile military theatre, NMO influence on military operations must never occur, whilst military influence on a NMO component designed to promote long-term developmental planning must also be avoided. During MNE 3, this situation was stressed several times.

NMO roles are likely to remain dependent on the situation in which they would be involved. The *ad hoc* nature of the CIACG may be both advantageous and

disadvantageous. Clearly, coalition interagency coordination mechanisms for regions frequently in crisis will be better developed than new areas of interest. NMO roles will need to be clarified for each operation. However minimum core functions should be identified in common doctrine with the assumption that additional functions could be added as required. The MNE 3 CIACG After Action Report (AAR) tabled several options regarding organization/role of the CIACG.

In MNE 3, the CIACG role was incorporated to meet experimental demands for EBP that do not envisage NMO control and/or direction over a stability operation. Indeed, the US concept developers for the MNE 3 CIACG construct have stated that the primary role of a CIACG is to provide civilian advice and expert perspective to the CTF commander and effects-based planners regarding civilian agency operational-level activities during the planning stages of an operation. Of course, this advisory role could evolve over time, as requirements demand. Several issues regarding roles remain unanswered and may require further refinement of the NMO concept for the Effects Based approach:

- What should the operating relationships between the NMO group(s) and their respective national governments be? Should it maintain the higher (or strategic) level of interest? If so, how should this translate to the operational level?
- What ethical issues need consideration? Clearly, should an NMO lead group be tasked as liaison between CTF and NGOs, IGOs, and IOs in the area of concentration, there is an ethical dilemma. At what point does the NMO lead risk conflict of interest when it acts as a conduit between humanitarian and relief organizations and the armed forces tasked by the Commander to pursue effects? Does the NMO lead recommend and then coordinate relief and humanitarian activities under the helm of the CTF? Presumably not.
- What, then, should the composition of a CTF NMO lead group look like? Several debates were held during MNE 3. NMO SMEs should be involved in the planning stages of EBP and for MNE 3 were chosen from a wide range of OGDs, foreign offices and departments of state. However, inclusion of members for the purposes of 'human intelligence' from IGOs may be necessary in practice. This, of course, suggests an ethical dilemma. Where and how does one receive, evaluate, and use expert advice in an area of concern?
- Following on the ethical dilemma, there should be a clear and universally understood strategic objective prior to the determination of effects. Effects, then, should also be universally understood (and accepted). The reason for this has serious implications for both the organization and roles of the NMO group. If a select number of effects rely on the undertaking of several actions, many of which use an admixture of social, financial and military resources, one should expect that NMO group members will have difficulty (not to mention frustration) in planning sessions with the CTF.

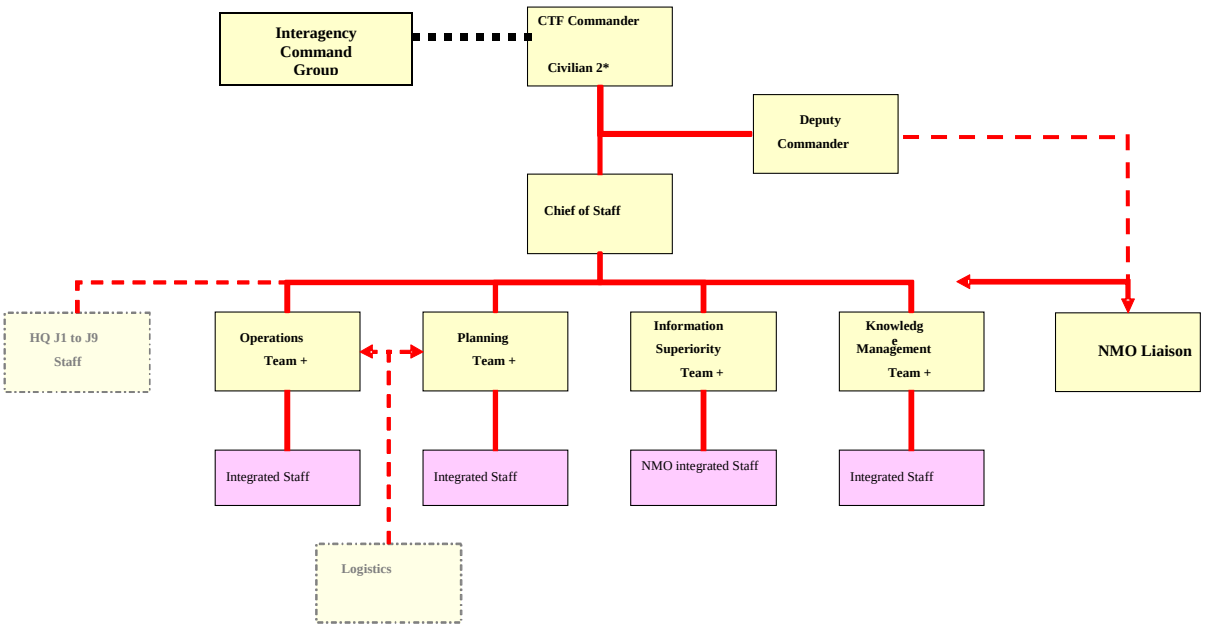


Figure 5: An alternative version of the SJFHQ (or CTFHQ) construct.

Finally, if NMOs are expected to make a strong contribution to the development of the Effects Based approach, then a strong identifiable civilian leader is necessary for the whatever form the interagency coordination group takes. This leader would presumably come from the lead nation, although there is a strong argument to be made that this leader should come from another coalition nation.

The above recommendations would imply some balance to Effects Based decision making:

- The relative value of the NMO group is greatly increased if members can reach-back to national networks. This is not easily overcome, however, as security issues may prevent secure national communications systems from operating in both the NMO and CTF area.
- During operations, it may be appropriate to pass CTF subordinate leads from military to civilian command. Clearly, any generic EBO will require the transition of authority to a civilian lead. Effects, if properly chosen, will require a civilian administration to ensure action taken is directed properly and considers all humanitarian, social, economic, political, cascading effects.

- Should EBP attempt to deliver a military objective, it is recommended that a military liaison officer be posted as a permanent member of the generic NMO coordination group, or, CIACG.

These points challenge the current SJFHQ (or CTFHQ) model and open to discussion the EBO C2 structure illustrated in Figure 5:

- US doctrine and concept development should recognize and accept the primacy of coalitions as the most probable paradigm within which the US may participate. It must therefore be willing to accept injection from a truly multinational NMO. Should it be the case that a CTF is required, a coordinated multinational NMO, or, Interagency Command Group, should be available to provide strategic to operational advice, and not guidance, to the Commander, CTF. To adapt to each contingency, the composition of this Command Group should be *ad hoc*, however, members should be national representatives at the ambassadorial level chosen by their respective states

- The Commander, CTF, should be augmented by a two-star civilian equivalent, capable of both serving to achieve the strategic objective through an effects based plan, as well as providing the military commander with rational and objective advice *and* planning guidance. The civilian would not provide military operational advice; rather he or she would provide guidance on the area of operations; operations and coalition unity of effort; diplomatic and interagency feedback to contingent nations; and would provide NMO liaison services

- An NMO Liaison would act between the Deputy Commander and the four collaborative subject matter areas in order to provide feedback to the Interagency Command Group, as well as to maintain the fluidity of options available to the SJFHQ.

- Each of the four SJFHQ areas would also have the inclusion of one NMO liaison inject to maintain the strategic objectives are being met when effects based planning has been initiated

- Most importantly, there would be an NMO advice and guidance chain provided to the Information Superiority cell of the SJFHQ. The reasons for this inclusion are several. First, NMO injection is not only critical when information on an area of interest, or, operation is collected and assessed, it is essential for the maintenance of a fluid, and adaptive, information assessment. Second, prior to the initiation of operational planning, this NMO cell would be required to assist in the assimilation of information from the assessment towards the development of an operational (military) campaign plan. Third, this cell would provide advice and guidance on proposed follow-on effects and the avoidance of unwanted and unintended social, developmental, legal, economic, and governance effects.

The above construct is presented for debate; it is not intended to supplant any effort to promote the current SJFHQ construct. It is, however, a more holistic representation of what positions may be necessary of an *ad hoc* coalition task force headquarters should it be called upon to develop and plan for an effects based operation in a complex system of systems.

CONCLUSIONS

During the Global War on Terror and the subsequent war in Iraq, the symbiosis between military and NMO outcome planning changed. In Iraq today, there are over 80 NGOs operating. Five independent groups have formed the Joint NGO Emergency Preparedness Initiative (JNEPI) to serve as a 'command post' for NGOs.[54] JNEPI activities are focused and adaptable to include planning, pre-positioning of equipment and supplies to coordination and information sharing. Interestingly, significant sources of funding for JNEPI include the US Agency for International Development (USAID). However, one of the five groups, the International Medical Corps, has warned its members and other NGOs to avoid the appearance of being 'with the occupiers'.[55] This is an important point. There is a strong argument to be made for recommending that RCCs include liaisons to the NGO community and vice versa. There is much common ground here but little effective means to communicate through the EBP process. The addition of liaisons, specific to the tasks (or end states), could enable a faster and more effective transition to a stable post-conflict environment. The opportunity for coordination through liaisons should not, however, infer control.

Successive combat operations in Afghanistan and Iraq, while militarily successful, appear to have been strategically short-sighted, if not misguided. Now seemingly forgotten, the 'interventionist' years between 1991 and 2001 initiated, and then terminated, an era of large-scale Western interventions. This period was notable for the widespread inclusion of developmental, social and humanitarian affairs into defence policy, not to mention the widespread inclusion of security issues in the planning stages of regional development and reconstruction efforts. Indeed, during the 'internationalist decade' between 1991 and 2001, war, intervention, regional security and development became inextricably intertwined. This phenomenon should not be forgotten. It is now generally accepted that international organizations (IOs) and national or international other government departments (OGDs) should not only be made aware of conflict and its effects, they should be party to the pursuit of objectives designed to promote regional and global security.

One of the conventional views of the causes of wars is that they devolve from a developmental malaise of poverty and the paucity of resources. The link between these causes and transnational crime and terrorism can also be drawn.[56] The politicization (or, arguably, militarization) of aid and development, not to mention diplomacy and negotiation, reflected the rise of a new security framework. The 'interventionist years'

---

[54] DRAFT NATO White Paper, *Coalition Warfare: Coordination and Planning Options*, 2003.
[55] International Medical Corps (IMC) press release, 12 Mar 2003, www.imc-la.com. Accessed 24 Mar 2004.
[56] Mike Duffield, *Global Governance and the New Wars* (London: Zed Books, 2001), p. 16.

marked the beginning of a general blurring and convergence of diplomacy, development and defence posturing. This framework was entirely different from that of the Cold War when the threat of catastrophic conflict prevailed. The notion of conflict for the sake of security reversed in the 1990s—from an interest in states with traditionally global influential power, to an interest in states, or parties, with little or none.[57] Through a conscious, or subconscious, 'reinforcement and mutuality', achieving one was regarded as essential for securing the other.[58] Regional development and sustainability was considered impossible to achieve without stability and security. This convergence was not, and is not today, simply a matter of policy; it has profound strategic, political, economic and social implications. It initiated the embodiment of increasing interaction between military institutions on the on the one hand, and, civilian non-military organizations (NMOs) on the other. It was a reflection of strengthening networks that, for a time, linked NGOs, IOs, and military components in the pursuit of strategic objectives. There were, for better or for worse, blurred traditional distinctions between people, war and government.

This paper has argued that national and international NMOs should be directly involved in the operational planning and execution stages of a coalition Effects Based effort. IOs and NGOs should be aware of the potential effects of military intervention, and, if possible, align capabilities towards stability, development and resolution. The ultimate outcome of intervention, then, should be to avert future violence. Therefore, the engagement of NMOs in military planning is essential if development and security are to prevail. These sentiments are well expressed in the policy statements of several leading IOs, UN agencies, non-partisan think-tanks; NGOs and financial institutions.[59] Indeed, NMOs have expanded their mandates to include working directly with national and international armed forces.

Conflict is complex in nature and armed forces must adapt to the environment(s) with which they are faced. Security and stability operations today require thought processes that have never before been considered. The means to perpetuate conflict: children, eco-terror, computers, weapons of mass effect, biological and chemical weapons and terror against civilians implies that in order to address these sources, one must be prepared to explore all necessary means, not to mention the integration of civilian and military thought processes. Threats emanate from everywhere and the armed forces tasked with their address are collecting intelligence from civilians; delivering humanitarian aid; protecting NGOs; and, eliminating funding sources. They are killing and protecting, destroying and rebuilding. Information and intelligence to aide forces comes from a variety of indicators: population; religion; economic spending; resource allocation. Obscure indicators such as the cost of weapons, the price of brides and the nature of tribal blessings can also foreshadow conflict. The sources of knowledge about these indicators, or, nodes, are most assuredly not the armed forces, but rather NMOs.

---

[57] Global influential power is a traditional construct that includes indicators such as economics and military strength.

[58] Duffield, p. 16

[59] These, for example, include the Organization for Security and Cooperation in Europe; the European Union; the World Bank; the United Nations Development Program; the United Nations High Commission for Refugees; the Carnegie Commission.

Complex and non-linear systems create an environment that favours *ad hoc* arrangements over long-term organizations, processes, and NMO relationships. Indeed, fluid partnerships aligned for fluid end-states are (and will be) a standard of Effects Based conflict. Major combat is, and will become, the lesser of challenges in post-modern engagements, therefore planning, doctrine and organizations must be transformed. Allied doctrine must be inclusive of the non-traditional elements that will complete the difficult transition from conflict to desired end-state. This means that NMO organizations such as the CIACG, as well as the larger concepts that frame them, should be thoroughly explored.

Finally, cultural, social, economic and NMO awareness by the military is not simply a case of generic civil-military training. These areas require legitimate study with expert collaboration on doctrine, operational rules of engagement, culture, socio-economic indicators, information, tradition, religion and values and the permutations and combinations thereof within complex systems. A multinational Effects Based approach must reflect more adequately the working relationships between organizations, agencies and institutions that lie outside of the traditional state-centred paradigm of conflict.