

## RAZPRAVA O ZNAČAJU CILJNO USMERJENEGA NAČRTOVANJA: KRITIKA

## DISCUSSING THE NATURE OF OBJECTIVES-BASED PLANNING: A CRITIQUE

Review paper

**Povzetek** Na proces oblikovanja strategije, kot ga dojema večina zahodnih vojsk, je močno vplival Clausewitz, ki je politični namen razlagal kot končni cilj vojne. Ne glede na vse njegove zasluge in prispevek k teoriji vojne pa se zdi takšen pogled na nastajanje strategije preozek za vojaško delovanje, ki smo mu bili priča v Iraku in še vedno tudi v Afganistanu. V protiuporniškem delovanju vplivajo na postavljanje političnih ciljev in uporabo vojaških sredstev številni dejavniki, tako da oblikovanje strategije pogosto vzbuja videz neurejenega in težavnega procesa, ki temelji na poskusih in napakah. V članku avtorja podrobno osvetlita temo in predstavita svojo kritiko vsesplošnega ciljno usmerjenega pristopa k oblikovanju strategije.

**Ključne besede** *Vzročnost, strategija, načrtovanje, napovedovanje, formalizacija.*

**Abstract** The process of strategy development as seen by most Western militaries is very much shaped by Clausewitz, who regarded the political aim the ultimate goal of war. Despite all his merits and contribution to the theory of war, Clausewitz's approach to strategy development appears to be too narrow for the military engagements we saw in Iraq and still see in Afghanistan. In counter-insurgency operations both the formulation of political goals and the application of military means are influenced by so many factors that strategy development often appears as a messy and painful process of trial-and-error. The authors expand on this issue and deliver a critique to the wide spread objective-based approach to developing strategy.

**Key words** *Causality, strategy, planning, prediction, formalisation.*

## Introduction

For the last two centuries armed forces have been trained and conditioned to realise predefined objectives at every stage and every level of war. This approach to strategy development can greatly be attributed to Clausewitz, for whom strategy meant nothing more than *“the use of an engagement for the purpose of the war”* (Clausewitz, 1993, p. 207). This rather rational, causal construct, with a clear and concise link between military means and political end, did not hinder him in emphasising that in strategy *“everything [had] to be guessed at and presumed”* (Clausewitz, 1993, p. 211). For Clausewitz, strategy meant a unifying structure to the entire military activity that decided on the time, place and forces with which the battle had to be fought. Consequently, even in Clausewitz causal construct, strategy meant *“numerous possibilities, each of which [would] have a different effect on the outcome of the engagement.”* (Clausewitz, 1993, p. 228). The sheer number of possibilities explains why he equated strategy with surprise and argued that *“no human characteristic appears so suited to the task of directing and inspiring strategy as the gift of cunning.”* (Clausewitz, 1993, p. 238).

Although Clausewitz regarded the political aim the ultimate goal (end, effect) of war, he equally argued that the multitude of conditions and considerations prohibits its realisation through a single act. As a result, the political end must be decomposed into military means of different importance and purpose. This instrumental focus explains his conviction that *“only great tactical successes [could] lead to great strategic ones”* and his claim that, in strategy, *“there [was] no such thing as victory”*. (Clausewitz, 1993, p. 270, p. 434). Political results at the strategic level mostly come from victories fought at the military tactical level. More politics at the strategic level hence leads to the ability to exploit military victories gained at the tactical level. This was the very reason for him as soldier to claim that in strategy *“the significance of an engagement is what really matters”* (Clausewitz, 1993, p. 617). Despite all the merits and contribution of Clausewitz to the theory of war, his approach to strategy development appears to be too narrow for today’s military engagements, such as those seen in Iraq and Afghanistan.

His strong influence on Western military schools of thought resulted in the common understanding of strategy as a link between military means and political ends or, in a more generalised version, between cause (means) and its effect (ends). Consequently, strategy is understood as a plan that expresses clear cause-and-effect assumptions. It provides a rationale for those actions that assumedly help realise political goals. Strategy is thus seen as a rational or planning activity in which means are related to ends in a focused and rigid manner despite the fact that, in most cases, strategy might change should new means become available or different ends appear to be preferable (Betts, 2000; Builder, 1989).

No doubt, war is non-linear in nature, which stands for the brake-down of causality and its underlying ends-means rationality. Counter-insurgency operations, which are high on the agenda in Afghanistan, are frustratingly non-linear. Both the formulation of political goals and the application of military and other means are influenced

by the interplay of so many factors that an approach based on rational planning can only have limited utility. In these cases strategy does not resemble similarity with an elegant forced march, but appears as a messy and painful process of trial-and-error. There are dynamic processes in which military means and political ends become confused. The result is that the means employed and the ends achieved cannot always be delineated sufficiently (Mintzberg, McHugh, 1985).

## 1 STRATEGY AS EQUATION

Despite the clear non-linear character of recent wars the traditional military approach to strategy development can best be described as an engineering one. Strategy is seen as a rigid framework that rests on ends-means calculation in which the emphasis is on how to synchronise between means applied and ends sought. In most cases a clear definition of ends is followed by a proper organisation of available means for which objectives are set, options narrowed and choices made. According to this approach strategy is appraised in terms of ends rather than means and assumes deliberate, rational and goal-attaining entities. Goals are articulated as objectives and come as a result of a general consensus. They are assumed to be ultimate, identified, well-defined, and sufficiently few that make them both manageable and measurable. The focus is on how well those specific and established objectives are achieved at every level of military operations (Feld, 1959; Beinhocker, 1999; Robbins, 1987; Pirnie, Gardiner, 1996).

Clausewitz stated in accordance that *“the subjugation of the enemy is the end, and the destruction of his fighting forces the means.”* (Clausewitz, 1993, p. 637). Hence, the essence of this sort of strategy can be pressed into a very simple equation:

***Strategy = Ends + Ways + Means***

Ends are equivalent to military objectives, ways to military strategic concepts and means to military resources. Strategy focuses on ways in order to employ means to achieve ends. It is a plan of actions in a synchronized and integrated framework that helps achieve various objectives at theatre, national, and/or multinational levels (Dorff, 2001; Lykke, 2001; Department of Defense, 2001).

This approach indicates the military as a self-sufficient system that contains the necessary means both to determine and attain objectives. Planning is seen as a balancing act between the two and supported by the following two assumptions.

1. The enemy opposition is often regarded as something that falls outside the system. It is seen as an environmental peculiarity that can be overcome. The enemy is simply not allowed to affect clear reasoning, drawing up and pursuit of objectives. War is often subdivided into various headings such as strategy, operations and tactics and often, competence in one area does not mean competence in the other.
2. The military is seen as a rational machine in which decisions are governed by prediction and control. A high degree of stability and calm is required in order

to provide a basis for the rational patterns of orders as the total body of available information is analysed and reduced. War is a series of discrete actions in which events come in a visible and serial sequence.

In other words, strict military discipline makes it possible that “*nothing occurring in the course of its execution should in any way affect the determination to carry it out.*” (Warden, 1989; Wylie, 1967; Feld, 1959, p. 21). The fundamental design of this approach contains neatly delineated steps with objectives placed at the front end and operational plans at the rear. The process of planning starts normally with setting objectives as quantified goals, followed by the audit stage in which a set of predictions about the future is made. Predictions delineate alternative states for upcoming situations, which are also extended by various checklists. In the subsequent evaluation stage the underlying assumption is that similar to firms that make money by managing money, armed forces can make war by managing war. Several possible strategies are outlined and evaluated in order to select one. The following operationalisation stage gives rise to a whole set of different hierarchies, levels and time perspectives. The overall result is a vertical set of plans containing objectives, allocation of resources, diverse sub-strategies and various action programs. The last stage of scheduling is equivalent to the establishment of a programmed timetable in which objectives drive evaluation in a highly formal way as everything is decomposed into distinct and specified elements. The basic assumption is that once the objectives are assembled strategy as an end-product will result. This approach rests on decomposition and formalisation in which strategy development often resembles similarity with mechanical programming (Mintzberg, Ahlstrand, Lampel 1998; Mintzberg, 1994; Mintzberg, 1990; Cleland, Ireland, 1990).

## 2 PREDICTION AND FORMALISATION

Due to its linear design this approach promotes inflexibility through clear directions as it attempts to impose stability. Although everything is built around existing categories emphasising a planned, structured and formalised process, it contains two possible pitfalls such as predictability and formalisation:

1. Predictability means that it presupposes a course of events and an environment that can be stabilised and controlled. Although even in war it becomes possible to predict certain repetitive patterns, forecasting any sort of discontinuity is practically impossible. Thus, a quick reaction outside the formalised design is often better than the extrapolation of current trends and hoping for the best.
2. Formalisation concerns a process that often detaches thinking from action, strategy from tactics, and formulation from implementation. It requires hard data in the form of quantifiable measures. Strategy is seen as a semi-exact science in which courses of actions are put into dry numbers. This approach can give room for “*strategising and artistic expressions by talented generals.*” (Mintzberg et al. 1998; Mintzberg, 1994; Robbins, 1987; Beinhocker, 1999; Smalter, Ruggles, 1966; Mintzberg, 1990; Daven, 2004, p. 17).

The result is that strategy is defined by attributes such as “*clarity of objective, explicitness of evaluation, a high degree of comprehensiveness of overview, and [...] quantification of values for mathematical analysis.*” (Lindblom, 1959, p. 80). These characteristics are further reinforced by the influx of various scientific tools in the form of operations research techniques that attempt to blend the relative predictability of advanced military technology, modern mathematics and rapid data processing tools. Although such techniques make it possible to estimate the probability of hitting a target with certain confidence, their power soon erodes when facing problems that cannot be easily translated into quantifiable formulas. Aggregating military activities into measurable data is technically possible, but the subsequent re-aggregation of analytic results is often unsatisfactory, even for the analysts themselves. Consequently, it is at odds with the more complex and constantly changing attributes of the effects landscape (Millett, Murray, 1988/89; Mankins, 2006).

### 3 ROLE OF OBJECTIVES

Objectives can best be described as “*clearly defined, decisive, and attainable goals towards which every military operation should be directed.*” (Joint Publication 1-02, 2001, p. 308). The essence of objectives-based planning is that higher-level objectives are decomposed into specific tasks and activities down to the lowest possible level. Thus, objectives, tasks and actions are linked hierarchically from top to bottom and across the width and breadth of operations. Clausewitz emphasised that “[*n*]o one starts a war ... without being clear in his mind what he intends to achieve ... and how he intends to conduct it. The former is its political purpose; the latter its operational objective.” (Clausewitz, 1993, p. 700). Objectives-based planning relies on the process of identifying objectives, analysing various courses of actions that ends with a plan. Activities become linked around common elements and, theoretically, everybody can see his or her contribution to the overall effort. Obsolete activities can be filtered out and eliminated, activities and resources elaborated based on substitution and scarcity (Kent, 1983; Smalter, Ruggles 1966; McCrabb, 2002; McCrabb, 2003; Joint Publication 1-02, 2001).

Forces are tasked to achieve objectives, which constitute the backbone against which campaigns are planned, executed and assessed. It is a construct in which “*series of secondary objectives ... serve as means to the attainment of the ultimate goal*” (Clausewitz, 1993, p. 228). Objectives flow from top down in a way that national security objectives form the basis for applying national power in order to secure national goals and interest:

1. National military objectives guide the application of military power in various regions of the world.
2. Campaign objectives on a regional operational level guide the successful prosecution of military campaigns.
3. Military campaigns are again decomposed into operational objectives in order to position and deploy forces.

4. Operational tasks and functions serve to achieve operational objectives (Thaler, Shlapak, 1995; Kent, Simons, 1991).

Strategy has the basic purpose of linking these levels in a coherent and clear framework since achieving a supported objective is partly a statement of supporting objectives. The result is that objectives cascade downwards as strategy at one level becomes objective at a level below. This hierarchy defines weight amongst objectives over time at the level needed to attain a higher level objective in any given situation. Strategy links the hierarchy of objectives and provides the framework for achieving them. At each level objectives and strategies are accompanied by a set of processes and actions defined by various criteria and constraints. This sort of strategy development places a premium on mass information since execution requires that those involved have access to all relevant aspects. Unfortunately, the non-linear nature of war as detailed earlier is mostly inaccurate, untimely and incomplete with key pieces missing or hard facts lacking (Thaler, Shlapak, 1995).

Objectives are well suited to the traditional levels of modern wars in which national security objectives and national military objectives are on the strategic level, expressed in political-military terms and serve as a framework for the conduct of campaigns and major operations on the operational level. Tactical level battles and engagements are fought in order to achieve higher level objectives. Thus objectives at each level are linked to a source or actor within the hierarchy. They proceed from the general towards the particular in a deductive fashion until those actions that help attain higher level objectives are identified. This hierarchical design puts emphasis on vertical relationships despite the fact that although some aspects may be quantifiable, but some more remain uncertain. The broad assumption is that lower-level objectives help attain objectives on a higher level as the output from one objective serves as input for others (Pirnie, Gardiner, 1996).

## 4 INSURGENTS AND IRREGULAR FORCES

Although objectives-based planning presupposes that objectives are defined in a clean and coherent way, there is always a risk that the hierarchical order breaks down. National military objectives may not be articulated in a sufficiently clear and concise way, which hinders the proper articulation of campaign objectives, which again cannot contribute to coherent operational objectives. The result is that the entire process shifts towards hedging against the worst case, and can eventually end up with completely inappropriate options. A good example for confusion of this kind was the bombing campaign during Operation Allied Force in which the final campaign plan, with its phased and incremental nature, left the planners mostly confused regarding the effect their actions should have on the enemy. Joint Publications 1-02 defines strategy as the “*art and science of developing and employing instruments of national power in a synchronized and integrated fashion to achieve theatre, national, and/or multinational objectives*” (Polumbo, 2000; Joint Publication 1-02, 2001, p. 383).

Fighting insurgents and other irregular forces means asymmetry, which increases the difficulty to identify useful and coherent objectives that can guide military actions. Although an adequate intelligence support infrastructure is a prerequisite for selecting an appropriate strategy, the feedback loop required for planning, execution and assessment can easily break down. The result is that accurate information does not flow rapidly with consequences ranging from superfluous repetition of actions to dangerous negligence (Thaler, Shlapak, 1995; Lindblom, 1959). Despite the supposed neat and streamlined design of objectives it is most likely that absence of clear guidance from higher echelons in the form of objectives will increasingly become the rule not the exception. More often, those who should define objectives will be in great need and may demand to get objectives suggested from below (Brocades Zaalberg, 2006). This may pose a crucial challenge in cases in which national and theatre level objectives are not well defined or there is no clear causal relationship between military options and desired political results. Due to the complexity involved, the relationship between military means and political ends can either be subject to uncertainties or poorly understood (Lindblom, 1959).

The situation decision-makers might face can become so highly variable and change so rapidly that the entire hierarchical design can get out of balance with no definite and well-understood inputs to objectives. The assumed clear policy guidance in the form of objectives can often be ambiguous as various fields may overlap or become contradictory. Furthermore, policy makers often have to juggle numerous values simultaneously without always making their rank order clear (Brocades Zaalberg, 2006).

Consequently, even with this well structured, engineering-oriented, semi-scientific approach, it becomes impossible to express and describe objectives with the required detail. Another problem is that objectives expressed on the highest level tend to be abstract in nature. Although they often rely on direct and clear causality, their relevance soon erodes as we move down the hierarchy. (Thaler, Shlapak, 1995; Pirnie, Gardiner, 1996; Betts, 2000; Richards, 1990).

As a precaution, menus of objectives are often suggested to provide a certain baseline for times when the expected guidance from above is either insufficient or unclear. Instead of thinking in a single and rigid plan it is believed that a spectrum of plans forming a pool of various strategic concepts can provide for useful strategies in the case the situation changes, or fails to proceed as assumed originally. However, waging war stands for a complex optimisation problem; therefore it is very questionable whether it becomes ever possible to establish a sufficient pool of flexible and non-committal objectives that can cover the vast array of emerging possibilities (Wylie, 1967).

Strategy development based on political ends translated into political objectives can best be described as a maximising approach since it attempts to control everything that may happen on the effects landscape. Despite the discrepancy between

the relative rigidity and linear character, and the increasing complexity of situations found in operations world-wide, the temptation to stick to this approach is as strong as ever (Ho How Hoang, 2004; McCrabb, 2001; NATO Strategic Commanders, 2001).

**Conclusion** The biggest shortcoming of the objectives-based approach is its limited ability to adapt, which is discouraged as much by the articulation of objectives as by the separation between formulation and implementation. Its very essence is to realise specific objectives as the focus is on realizing rather than adapting them. Focusing on objectives is quantitative since it mostly deals with static states and not the transitions between possible states. It is a step-wise and incremental approach that proceeds hierarchically through the various levels of war, despite the fact that such links can become weak or even disappear as events unfold. Non-linearity stands for dynamic and constantly changing processes, in which events are also influenced by what common wisdom would term external circumstances or luck. It is also mentioned that a comprehensive understanding of objectives is needed, which requires that commanders must look at both above and below their respective levels (Mintzberg, Waters, 1985; Pirnie, Gardiner, 1996; Senglaub, 2001; Chakravarthy, 1997; Lykke, 2001).

However, such demand can easily put commanders under increased pressure and lower overall performance. Objectives-based planning attempts to see the end from the beginning and by going into ever finer detail it reflects linear causality. Unfortunately, war seen as a non-linear phenomenon indicates much messiness. Thus, there are serious limitations for such an approach:

1. By going step-wise through the tactical, operational and strategic levels, objectives-based planning suggests that objectives simply add together and war can be seen as a sum, and not the product of many factors.
2. Instead of creating options and opening up new possibilities by discovering niches, objectives-based planning shuts down or at least limits the chance of exploiting emergent opportunities.
3. In sum, objectives-based planning means that we “*pursue relatively singular strategies and thus occupy only one spot on the landscape*”, but do not employ any mechanism that provides for protection “*when the landscape unexpectedly changes*” (Beinhocker, 1999b, p. 100, 102).

Clausewitz’s contribution to strategic thinking is unquestionable. However, his goal-seeking approach excludes a whole range of other aspects such as logistic, social and technological issues, which must be considered as equally important in military operations. However, this focus should not come as a surprise since he believed that every human activity is a rational undertaking and governed by reason, which explains why he understood strategy as an objective-oriented, goal-seeking phenomenon (Howard, 1979; Millett, Murray, 1988/89).



## Bibliography

1. Beinhocker, E. D., 1999a. *On the Origins of Strategies*. *The McKinsey Quarterly*. Number 4. p. 167-176.
2. Beinhocker, E. D., 1999b. *Robust Adaptive Strategies*. *MIT Sloan Management Review*. Spring. p. 95-106.
3. Betts, R. K., 2000. *Is Strategy an Illusion?* *International Security*. Fall. p. 5-50.
4. Brocades Zaalberg, T., 2006. *Soldiers and Civil Power, Supporting or Substituting Civil Authorities in Peace Operations During the 1990s*. PhD Thesis. Amsterdam: University of Amsterdam Press.
5. Builder, C. H., 1989. *The Masks of War, American Military Styles and Strategy and Analysis*. Rand Corporation Research Study. Baltimore: The John Hopkins University Press.
6. Chakravarthy, B., 1997: *A New Strategy Framework for Coping with Turbulence*. *MIT Sloan Management Review*. Winter. p. 69-82.
7. Clausewitz, C. von, 1983. *On War*. New York: Everyman's Library.
8. Cleland, D. I., Ireland, L. R., 1990. *Project Management, Strategic Design and Implementation*. New York: McGraw-Hill.
9. Daven, C. (Capt.), 2004. *Effects-Based Operations: Obstacles and Opportunities*. *Journal of the Singapore Armed Forces*. Volume 30. Number 2. [http://mindef.gov.sg/safti/pointer/back/journals/2004/Vol30\\_2/3.htm](http://mindef.gov.sg/safti/pointer/back/journals/2004/Vol30_2/3.htm), 31 August 2004.
10. Department of Defense. *Joint Publication 1-02, Dictionary of Military and Associated Terms*. 12 April 2001 (as amended through 30 November 2004). [www.dtic.mil/doctrine/jel/new\\_pubs/jp1\\_02.pdf](http://www.dtic.mil/doctrine/jel/new_pubs/jp1_02.pdf), 16 March 2005.
11. Dorff, R. H., 2001. *U.S. Army War College Guide to Strategy*. Carlisle: U.S. Army War College. pp. 11-18. <http://permanent.access.gpo.gov/lps11754/00354.pdf>, 08 March 2005.
12. Feld, M. D., 1959. *Information and Authority: The Structure of Military Organization*. *American Sociological Review*. Volume XXIV. p. 15-22
13. Ho How Hoang, J. (Lt. Col.), 2004. *Effects-Based Operations Equals to "Shock And Awe"?* *Journal of the Singapore Armed Forces*. Volume 30. Number 2. [http://www.mindef.gov.sg/safti/pointer/back/journals/2004/Vol30\\_2/7.htm](http://www.mindef.gov.sg/safti/pointer/back/journals/2004/Vol30_2/7.htm), 30 August 2004.
14. Howard, M., 1979. *The Forgotten Dimensions of Strategy*. *Foreign Affairs*. Summer. p. 975-986.
15. Kent, G. A., 1983. *Concepts of Operations: A More Coherent Framework for Defense Planning*, Santa Monica: RAND N-2026-AF.
16. Kent, G. A., Simons, W. E. 1991. *A Framework for Enhancing Operational Capabilities*, Santa Monica: RAND R-4043-AF.
17. Lindblom, C. E., 1959. *The Science of "Muddling Through"*. *Public Administration Review*. Spring. p. 79-88.
18. Lykke, A. F., 2001. *U.S. Army War College Guide to Strategy*. Carlisle: U.S. Army War College. 2001. pp. 179-186 <http://permanent.access.gpo.gov/lps11754/00354.pdf>, 08 March 2005.
19. Mankins, M. C., Steele, R., 2006. *Stop Making Plans; Start Making Decisions*. *Harvard Business Review*. January. p. 76-84.
20. McCrabb Maris "Buster" Dr., 2001. *Explaining "Effects": A Theory for an Effects-Based Approach to Planning, Executing and Assessing Operations*. [http://www.dtic.mil/jointvision/ideas\\_concepts/ebo.doc](http://www.dtic.mil/jointvision/ideas_concepts/ebo.doc), 23 March 2005.
21. McCrabb Maris "Buster" Dr., 2002. *Concept of Operations for Effects-Based Operations*. Air Force Research Laboratory. <http://www.eps.gov/EPsdata/USAF/Synopses/1142/Reference-Number-PRDA-00-06-IKFP/LatestEBOCONOPS.doc>, 03 March 2003.
22. McCrabb, Maris "Buster" Dr., 2003. *Uncertainty, Expeditionary Air Force and Effects-Based Operations*. Air Force Research Laboratory. <http://www.eps.gov/EPsdata/USAF/Synopses/1142/Reference-Number-PRDA-00-06-IKFP/uncertaintyandoperationalart.doc>, 23 March 2003.

23. Millett, A. R./Murray, W., 1988/89. *Lessons of War*. The National Institute, Winter p. 83-95
24. Mintzberg, H., Ahlstrand B., Lampel J., 1988. *Strategy Safari, A Guided Tour Through The Wilds of Strategic Management*. New York: The Free Press.
25. Mintzberg, H., 1994. *The Rise and Fall of Strategic Planning*. Harvard Business Review. January-February. p. 107-114.
26. Mintzberg, H., 1990. *The Design School: Reconsidering the Basic Premises of Strategic Management*, Strategic Management Journal. March-April. p. 171-195.
27. Mintzberg, H., McHugh, A., 1985. *Strategy Formation in an Adhocracy*. Administrative Science Quarterly. June. p. 160-197.
28. Mintzberg, H., Waters J. A., 1985. *Of Strategies, Deliberate and Emergent*. Strategic Management Journal. Volume 6. p. 257-272.
29. NATO Strategic Commanders. 2003. *Strategic Vision: The Military Challenge*, MC 324/1 as of 12. 01. 2003. <http://www.dmkn.de/1779/ruestung.nsf/cc/WORR-66SFNQ>. 17 January 2005.
30. Pirnie, B., Gardiner, S. B., 1996. *An Objectives-Based Approach to Military Campaign Analysis*, Santa Monica: RAND MR656-JS.
31. Polumbo, H. D. (Col.), 2000. *Effects-based Air Campaign Planning: The Diplomatic Way to solve Air Power's Role in the 21<sup>st</sup> Century*, Air War College, Air University, Air Force Academy, April, pp. 6-24.
32. Richards, D., 1990. *Is Strategic Decision Making Chaotic?* Behavioral Science. Volume 35. p. 219-232.
33. Robbins, S. P., 1987. *Organisation Theory: Structure, Design, and Application*. New York: Prentice-Hall International Editions.
34. Senglaub, M., 2001. *Course of Action Analysis within an Effects-Based Operational Context*. Sandia Report. Sand2001-3497. November. [www.infoserve.sandia.gov/cgi-bin/techlib/access.control.pl/2001/013497.pdf](http://www.infoserve.sandia.gov/cgi-bin/techlib/access.control.pl/2001/013497.pdf). 23 September 2004.
35. Smalter, D. J., Ruggles, R. L., 1966. *Six Business Lessons from The Pentagon*. Harvard Business Review. March-April. p. 64-75.
36. Thaler, D. E., Shlapak, D. A., 1995. *Perspectives on Theater Air Campaign Planning*, Santa Monica: RAND MR-515-AF.
37. Warden, J. A. (Col.), 1989. *The Air Campaign, Planning for Combat*. Washington: National Defence University Press.
38. Wylie, J. C., 1967. *Military Strategy: A General Theory of Power Control*. New Brunswick: Rutgers University Press.