Adaptive Campaigning Applied: Australian Army Operations in Iraq and Afghanistan

A Monograph
by
MAJ Michael B. Bassingthwaighte DSM
Australian Army

School of Advanced Military Studies
United States Army Command and General Staff College
Fort Leavenworth, Kansas

AY 2010

REPORT DOCUMENTATION PAGE

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE 19 May 2011	3. REPORT TYPE AND DATES COVERED SAMS Monograph

4. TITLE AND SUBTITLE
Adaptive Campaigning Applied: Australian Army Operations in Iraq and Afghanistan

5. FUNDING NUMBERS

6. AUTHOR(S)
MAJ Michael B. Bassingthwaighte DSM, Australian Army

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
School of Advanced Military Studies (SAMS)
250 Gibbon Avenue
Fort Leavenworth, KS 66027-2134

8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)

Command and General Staff College
731 McClellan Avenue
Fort Leavenworth, KS 66027-1350

10. SPONSORING / MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION / AVAILABILITY STATEMENT
Approved for Public Release; Distribution Unlimited

12b. DISTRIBUTION CODE

13. ABSTRACT *(Maximum 200 Words)*
The purpose of this study is to evaluate the relevance of Adaptive Campaigning to recent Australian Army operations in Iraq and Afghanistan. The context for Adaptive Campaigning is set by reviewing Australia's way of warfare and the evolution of Australian military thinking over the past decade. The resulting theoretical dialogue in the Australian Army that centered on Complex Warfighting 2004, Adaptive Campaigning 2007 and Adaptive Campaigning 2009 saw the introduction of a novel component – the theory of complex adaptive systems – to develop the Australian Army's Future Land Operating Concept. This monograph reviews the theory of complex adaptive systems and its manifestation in Adaptive Campaigning through the execution of simultaneous lines of operation and the Adaption Cycle. It is argued that the nonlinear perspective of complex adaptive systems complements rather than replaces traditional linear processes, such as center of gravity analysis. Two case studies, Overwatch Battle Group (West) 1, Iraq, 2006, and Reconstruction Task Force 3, Afghanistan, 2007-2008, investigate how these forces designed operations in the context of Adaptive Campaigning. The study concludes that both forces adapted traditional planning process to cope with the complexity they encountered in ways that were consistent with Adaptive Campaigning.

14. SUBJECT TERMS
Australian Way of Warfare, Adaptive Campaigning, Iraq, Afghanistan, Complex systems science, Overwatch Battlegroup, Reconstruction Task Force

15. NUMBER OF PAGES
63

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT Unclassified

SCHOOL OF ADVANCED MILITARY STUDIES

MONOGRAPH APPROVAL

MAJ Michael B. Bassingthwaighte DSM

Title of Monograph: Adaptive Campaigning Applied: Australian Army Operations in Iraq and Afghanistan

Approved by:

_____   Monograph Director
Alexander R. Ryan, Ph.D.

_____   Second Reader
Myron J. Reineke, COL, IN

_____   Director,
Wayne W. Grigsby, Jr., COL, IN   School of Advanced
Military Studies

_____   Director,
Robert F. Baumann, Ph.D.   Graduate Degree
Programs

Abstract

ADAPTIVE CAMPAIGNING APPLIED: AUSTRALIAN ARMY OPERATIONS IN IRAQ AND AFGHANISTAN by MAJ Michael B. Bassingthwaighte DSM, Australian Army, 56 pages.

The purpose of this study is to evaluate the relevance of Adaptive Campaigning to recent Australian Army operations in Iraq and Afghanistan. The context for Adaptive Campaigning is set by reviewing Australia's way of warfare and the evolution of Australian military thinking over the past decade. The resulting theoretical dialogue in the Australian Army that centered on *Complex Warfighting 2004*, *Adaptive Campaigning 2007* and *Adaptive Campaigning 2009* saw the introduction of a novel component – the theory of complex adaptive systems – to develop the Australian Army's Future Land Operating Concept. This monograph reviews the theory of complex adaptive systems and its manifestation in Adaptive Campaigning through the execution of simultaneous lines of operation and the Adaption Cycle. It is argued that the nonlinear perspective of complex adaptive systems complements rather than replaces traditional linear processes, such as center of gravity analysis.

Two case studies, Overwatch Battle Group (West) 1, Iraq, 2006, and Reconstruction Task Force 3, Afghanistan, 2007-2008, investigate how these forces designed operations in the context of Adaptive Campaigning. In particular, the operational employment of the five lines of operation, the Adaption Cycle, and the translation of a campaign plan into tactical action is analyzed. The study concludes that both forces adapted traditional planning process to cope with the complexity they encountered in ways that were consistent with Adaptive Campaigning. This poses a challenge to existing Australian Joint and Army planning doctrine, which has not yet incorporated the nonlinear perspective of the Future Land Operating Concept. A linear focus on direct force-on-force encounters and an over-reliance on center of gravity analysis may limit the effectiveness of current planning processes in complex operational environments. The major recommendation of this study is that the Australian Joint and Army planning doctrine needs to be updated to incorporate the nonlinear concepts of Adaptive Campaigning, which have been shown to be of utility in contemporary operations.

Table of Contents

Introduction

"To win the joint land battle," is the Australian Army's mission as part of the Australian Defence Force in this current era of persistent conflict.[1] Although the nature of war remains unchanged, its characteristics continue to change and with the current rate of technological development, the pace of this change is likely to increase.[2] As a result the Australian Army will need to be able to adapt in order to be prepared to win the joint land battles of the future. To meet these challenges the Chief of the Australian Army, Lieutenant General Gillespie AO, DSC, CSM, has stated that "the Australian Army's modernisation will be guided by strategic guidance, force development and capability decisions. The Australian Army will maintain a concept-led and capability-based philosophy, while being resource conscious and threat aware."[3]

The leading concept that provides the theoretical and intellectual framework to meet the Chief of the Australian Army's intent is *Army's Future Land Operating Concept* (*Adaptive Campaigning 2009*). *Adaptive Campaigning 2009* builds on the previous Future Land Operating Concepts, *Complex Warfighting 2004* and *Adaptive Campaigning 2007*. These two concepts were informed by research from the Defence Science and Technology Organization, operational lessons, worldwide trends, and domestic and international developments. This approach has

---

[1] Australia Department of Defence, *Land Warfare Doctrine 1: The Fundamentals of Land Warfare* (Canberra, ACT: Australian Army, 2008), 3.

[2] It is acknowledged that the statement "Although the nature of war remains unchanged" is open to debate in some circles. The nature of this debate is particularly well articulated, but not resolved, in *Rethinking the Nature of War*, ed. Isabelle Duyvesteyn and Jan Angstrom (New York, NY: Frank Cass, 2005). However, the view that the nature of war remains unchanged but its characteristics continue to change is a commonly held view in military circles. The Chief of the Australian Army, Lieutenant General Ken Gillespie, articulates this in his forward to *Adaptive Campaigning 2009* (Australia Department of Defence, *Army's Future Land Operating Concept* (Canberra, ACT: Australian Army Headquarters, 2009), i.). His view is supported by, US Army Chief of Staff, General George Casey, in David H. Gurney and Jeffrey D. Smotherman Dr., "An Interview with George W. Casey, Jr." *Joint Forces Quarterly*, no. 52 (2009), 15. And by General James Mattis, as the then Supreme Allied Commander Transformation, also articulated this view in a speech to the North Atlantic Treaty Organisation on July 7, 2009. (James N. Mattis, "Launching NATO's New Strategic Concept" (Brussels, North Atlantic Treaty Organisation, July 7, 2009), http://www.nato.int/cps/en/natolive/opinions_56392.htm (accessed November 16, 2010).).

[3] Department of Defence, *Army's Future Land Operating Concept*, i.

continued with *Adaptive Campaigning 2009*. The 2009 version of Adaptive Campaigning was

revised in order to incorporate guidance by *Defence White Paper 2009*, the *Defence Capability

Plan* and the *Adaptive Army* initiative. Read in conjunction with its companion document, *Land

Warfare Doctrine 1: The Fundamentals of Land Warfare, 2008*, *Adaptive Campaigning 2009*

provides the common language for the Australian Army's force modernization and a model for

planning operations in a complex adaptive environment.[4]

The *Defence White Paper 2009* states that there are four principle tasks for the Australian

Defence Force: deterring and defeating attacks on Australia; contributing to stability and security

in the South Pacific and East Timor; contributing to military contingencies in the Asia-Pacific

region; and contributing to military contingencies in support of global security.[5] In support of this

the Chief of the Australian Army has stated that:

Australia's most basic strategic interest remains the defence of Australia against direct

armed attack. Consequently the principal task for the [Australian] Army, as part of the broader

Australian Defence Force, is to deter and defeat armed attacks on Australia. This includes:

safeguarding Australian territory, population, infrastructure and resources; manoeuvre in the

primary operating environment, including amphibious manoeuvre; proactive combat operations

against an adversary's military bases and staging areas; and support to domestic security and

emergency response tasks.

In order to succeed in this task, as well as the additional principal tasks specified in

Defence White Paper 2009, the Army is to be designed for a diverse range of operations in

complex environments. Army is to be able to operate as combined arms teams and undertake

combat in littoral and land environments. *Adaptive Campaigning 2009* describes these

---

[4] Ibid., i.

[5] Australia Department of Defence, *Defending Australia in the Asia Pacific Century: Force 2030*
(Canberra, ACT: Commonwealth of Australia, 2009), Ch 7.

requirements as an integrated Land Force response, within a broader Joint and Whole of Government approach, to the demands of Complex War.[6]

The Australian Army has always met the challenges of the battlefield through rigorous and resourceful approaches to warfighting. Conflict has constantly been complex but with the increasing number of actors involved in current conflict, armed with weapons of ever increasing lethality and connected through the proliferation of technology, the organization requires "a comprehensive long term approach to conflict resolution and securing Australia's national interests." It is through *Adaptive Campaigning 2009* that the Australian Army seeks to "win the joint land battle" now and in the future.[7]

There has been much discussion of *Adaptive Campaigning 2009* within Australia's professional journals. Most of this discussion has been focused on its relevance in the contemporary operating environment and its impact on the Australian Army's structure and doctrine. Very little has been written on how to employ this operating concept in the contemporary operating environment or how adaptive campaigning is being utilized by deployed forces.

Methodology and Thesis

Examining the operational employment of adaptive campaigning requires the selection of case studies subsequent to the first publication of adaptive campaigning in 2006. However, analysis of operations in Iraq and Afghanistan, including the extraction of their lessons, poses a considerable methodological problem. Insufficient time has elapsed to allow for historical perspective, and the available unclassified documentary record remains fragmentary at best. Yet, the lack of data does not detract from the importance of an initial assessment of the utility of

---

[6] Department of Defence, *Army's Future Land Operating Concept*, i.

[7] Ibid., i.

adaptive campaigning for contemporary operations. For such an assessment to be relevant to continuing concept development, the Australian Army cannot wait for the official historical record to be written.

Some of these limitations can be overcome through access to primary sources, published and unpublished works, and correspondence with commanders and planners from the operations in question. In addition, the author will carefully draw on experiences, observations and reflections as the Adjutant of Overwatch Battle Group (West) 1, deployed to Southern Iraq in the period May to November 2006, and as the Officer Commanding the Security Task Group of Reconstruction Task Force 3, deployed to Afghanistan in the period October 2007 to April 2008. It is acknowledged that personal experience of the operations presents the risk of bias and loss of objectivity. To mitigate this risk, results of the analysis are established based on external written sources of evidence. Personal experience is used only to add detail to the case studies, and is clearly annotated with footnotes.

The purpose of this study is to contribute to the ongoing discourse on the relevance of Adaptive Campaigning. An investigation of Australia's way of war sets the scene for this study. This will be followed by a review of the evolution and underlying theory of *Adaptive Campaigning 2009*. Next, professional dialog about Adaptive Campaigning's development and its impact on the Australian Army's structure and doctrine is surveyed. Two case studies, Overwatch Battle Group (West) 1, Iraq, 2006, and Reconstruction Task Force 3, Afghanistan, 2007-2008, then examine how these forces designed operations in the context of Adaptive Campaigning. In particular, the use of the five lines of operation and the Adaption Cycle, and how these forces turned their campaign plans into tactical action is investigated. The aim of this study is to confirm or deny that Adaptive Campaigning provides a sound conceptual framework for the conduct of campaign planning. The case studies support the argument that using Adaptive Campaigning as a framework in the context of a particular situation and mission results in a workable campaign plan capable of guiding tactical action in support of the strategic objective.

The major recommendation of this study is that the Australian Joint and Army planning doctrine needs to be updated to incorporate the nonlinear concepts of Adaptive Campaigning, which have been shown to be of utility in contemporary operations.

The Australian Way of Warfare

It is important at the start of this monograph to give some Australian context to properly frame what follows. This is important as culture influences policy and strategy and by identifying Australia's way of warfare we gain an insight into what influences not only the formulation of policy and strategy but the concepts and doctrine that support it.[8] This section identifies Australia's particular way of warfare, the implications of this way of war on the Australian Defence Force, and the importance of this to Adaptive Campaigning.

There is a lot of discourse on the validity or otherwise of Australia's way of warfare in the general media by both reporters and military commentators. This discourse displays a fundamental tension in Australia's strategic debate that is typified by two camps: the expeditionary and regional defense camp, personified by the likes of Greg Sheridan, and the Defence of Australia camp, personified by Hugh White.[9] Unfortunately, neither camp has been able to clearly articulate, in any detail, what the Australian way of warfare actually was. In contrast, Michael Evans' definition is empirically grounded. He states that:

> The Australian way of war is best described as being based on fusing strategy and statecraft through the agency of overseas warfare, with the use of volunteer forces in coalition operations. This approach to national warfighting was used both in the

---

[8] Beatrice Heuser identified that war aims are dictated by the concepts of the world, of society, of friend and foe, and of notions of what can be achieved through military manpower and technology. As strategy is a function of all these variables, and many more, culture is a critical variable in analyzing a nation's policies, strategies and the concepts and doctrine that support them all of which make up a nation's way of warfare. Beatrice Heuser, *The Evolution of Strategy: Thinking War from Antiquity to the Present* (Cambridge UK: Cambridge University Press, 2010), 18, 24.

[9] There are many examples of this debate but here are two: Greg Sheridan, "A Whole New Ball Game," *The Australian*, July 12, 2007. Also see Hugh White, "Anzac, our Achilles Heel?" *The Age*, May 24, 2007.

unlimited struggles of the World Wars and in the limited wars that have occurred since 1945. In David Horner's words, 'as a generalization, Australia has fought its wars away from its land'. From the Boer War to Vietnam, there was a consistent trend towards offshore warfare, and 'despite periods when Australia looked to home defence, when the time [of war or security crisis] came, Australia saw that it was in its strategic interests to commit forces overseas'.[10]

What does this mean to the Australian Defence Force? The Australian Defence Force is a small, professional, high technology force specializing in maneuver warfare, preferably conducted under the auspices of a formal alliance or coalition arrangements.[11] To give some perspective on how small the Australian military is, it is worth comparing it to the U.S. military. The Australian Army, although the biggest of the three services, consists of one active duty division of three combat brigades, one reserve division of six combat brigades, and three integrated support brigades; compared to the U.S. Army's 10 active duty divisions consisting of 40 active duty combat brigades and 75 support brigades, two integrated divisions consisting of six combat brigades, eight National Guard divisions consisting of 28 combat brigades and 78 support brigades, and the Reserve's 59 support brigades.[12] The *Defence White Paper 2009* states the principal task for the Australian Defence Force is to deter and defeat armed attacks on Australia, a land mass slightly smaller than the U.S. contiguous 48 states, drawing on a population and Gross Domestic Product slightly smaller than the State of Texas.[13] Taking this into account, along with the other tasks laid out for the Australian Defence Force in the *Defence White Paper 2009*

---

[10] Michael Evans, *The Tyranny of Dissonance: Australia's Strategic Culture and Way of War 1901–2005*, Vol. Study Paper No. 306 (Duntroon ACT: Land Warfare Studies Centre, 2005), 65.

[11] John Birmingham, *A Time of War: Australia as a Military Power*, Issue 20 ed. (Collingwood VIC: Black Inc, 2005), 21.

[12] The Australian force numbers were derived from the Adaptive Army Public Information paper and the U.S. Army numbers were derived through multiple lines of inquiry utilizing the U.S. Army's official website, www.army.mil, and www.globalsecurity.org.

[13] Department of Defence, *Defending Australia in the Asia Pacific Century: Force 2030*, Ch 7; The Central Intelligence Agency, "The World Factbook: Australia," The Central Intelligence Agency, https://www.cia.gov/library/publications/the-world-factbook/geos/as.html (accessed 10/19, 2010); and Legislative Budget Board, *Texas Fact Book 2010* (Austin TX: Eighty-First Texas Legislature, 2010), www.lbb.state.tx.us/Fact_Book/Texas_FactBook_2010.pdf (accessed 10/19/2010).

(contributing to stability and security in the South Pacific and East Timor; contributing to military contingencies in the Asia-Pacific region; and contributing to military contingencies in support of global security[14]), it is a lot to cover with a small force. What also becomes evident is the disconnect between what Evans states is Australia's way of warfare and the key tasks laid out by the *Defence White Paper 2009*, where "overseas warfare, with the use of volunteer forces in coalition operations," arguably the most likely task, comes after "deter and defeat armed attacks on Australia," arguably the most dangerous situation. This leads to the fundamental tension in Australia's strategic debate identified earlier.

This tension in the strategic debate complicates the formulation of a cohesive warfighting concept for the Australian Defence Force. In an attempt to define and articulate Australia's approach to warfighting, the Australian Defence Force released *The Australian Approach to Warfare* in 2002. In this document the Australian Defence Force defined several key warfare concepts. These included the integration of the capabilities of the three Services (Navy, Army and Air Force) in joint operations; the early resolution of conflict in a way that allows Australia not only to win the war, but also win the peace; and maximization of the physical and psychological pressure on the adversary's will to continue fighting. This may involve attrition of the adversary's forces at critical points, but is distinct from a focus on attrition of the adversary's forces and economic resources or on gaining territory. Mobility of forces and the well-directed application of firepower ensure both economy of effort and decisive effect, as well as the ability to operate effectively in coalition with other nations when required.

Australia's approach to warfare focuses on coordinated joint operations across the physical environments of undersea, sea, land and aerospace. This is not to deny the particular demands of the operational environment in which each Service trains and fights, nor the Service

---

[14] Australia Department of Defence, *Australia's National Security: A Defence Update 2003* (Canberra, ACT: Commonwealth of Australia, 2003), Ch 7.

values enshrined in their traditions. But for Australia, the conduct of joint operations, rather than single-Service operations, is a matter of practical necessity. Effective integration of thought and action at all levels of command to achieve the common goal produces synergy in the conduct of operations, which is the strength of our joint warfare approach.[15]

The Australian Army further defines this way of warfare by articulating its philosophy of war in *Complex Warfighting 2004*:

> Humans use philosophy to make sense of reality, as a framework for interpreting complex events. There is evidence that a military force's warfighting philosophy reflects its mental 'image of war' and affects all aspects of organisation, deployment and employment. Therefore, the Army's philosophy of war is the start point in describing how land forces must operate in the environment outlined above.
> The Australian Army's philosophy of war views warfare as fundamentally a human, societal activity, rather than a technical or engineering problem. War is a form of armed politics, and politics is about influencing and controlling people and perceptions. War is a free creative human activity, inextricably linked to human will, emotion and psychology. As described in *Land Warfare Doctrine 1, The Fundamentals of Land Warfare*, war has enduring features but manifests itself differently in different historical periods or objective conditions. The enduring features of war include friction, danger and uncertainty. Further, although conflicts differ, these differences arise from a small number of variables including human interaction, the physical domain, innovation and chance.[16]

What significance does this have for the operationalization of adaptive campaigning? It was through the process of wrestling with the above national policy tensions, its own self image, and the global security environment that the Australian Army developed an evolving approach to tackle this complex adaptive environment, beginning with *Complex Warfighting 2004*, which was followed by *Adaptive Campaigning 2007* and *Adaptive Campaigning 2009*. This evolution, and the theory behind it, will be discussed in detail in the following literature review.

---

[15] Australia Department of Defence, *The Australian Approach to Warfare* (Canberra, ACT: Australian Defence Force, 2002), www.defence.gov.au/publications/taatw.pdf (accessed 10 November 2010).

[16] Australia Department of Defence, *Complex Warfighting* (Canberra, ACT: Australian Army Headquarters, 2004).

Review of an Evolution in Australian Military Thinking

Evolution of Adaptive Campaigning

The start of this evolution can be traced to the self-examination that resulted from Australia's leadership of the International Force East Timor. Leading up to Australia's involvement in East Timor, Australian defense policy had focused on self-reliance, although within the context of the American alliance, and with an emphasis on the ability of Australian forces to deal with low level threats, especially in Australia's northern region.[17] The Australian Defence Force's involvement in East Timor severely tested its capacity to conduct expeditionary operations in our near region.[18]

As a result of its East Timor experience and a commitment made by the Government to publish a Defence White Paper in its first term, a re-examination of Australia's defense posture was undertaken. This decision reflected recognition by the Government that the Australian Defence Force was under pressure to meet a progressively more complex and diverse range of tasks within a budget that had remained relatively steady in real terms over the previous 15 years. The Government had become concerned that a mismatch had arisen between Australia's strategic objectives, its defense capabilities and its level of defense funding. The resulting White Paper, *Defence 2000 – Our Future Defence Force*, reaffirmed that Australia's most important long-term strategic objective was to ensure the defense of Australia and its direct approaches. This was followed by a desire to further the security of Australia's immediate neighborhood and to work with others to promote stability and cooperation in Southeast Asia. Australia's next priority was to contribute to maintaining strategic stability in the wider Asia Pacific region and finally to contribute to the efforts of the international community, especially the United Nations, to uphold

---

[17] R. James Ferguson, "Australian Defence Policies: Alliance or Independence?" *The International Relations and International Cultures Portal*, 2000, http://www.international-relations.com/wbip/wbnlec5.htm (accessed November 10, 2010).

[18] Peter Cosgrove, *My Story* (Sydney, NSW: Harper Collins Publishers, 2006), 169.

global security. In line with this, Australia confirmed its undertaking to continue to support the United States in the major role it was playing in maintaining and strengthening the global security order. Australia also had a strong interest in non-proliferation regimes that prevented the spread of weapons of mass destruction.[19]

The increasing prevalence of terrorist attacks before and after September 11, 2001, such as the Bali bombing in 2002, demonstrated that terrorism had become an enduring aspect of the global security environment for the foreseeable future. The security impact of this for Australia was that militant extremists, particularly in Southeast Asia, had taken up the Al Qaida cause and had identified Australia as a target.[20] In response to this emerging threat the Australian Defence Force re-examined its approach to warfare, publishing its findings in *Australia's Approach to Warfare* in 2003. This document focused on the importance of coordinated joint operations across the physical environments of land, sea and air. It outlined the requirement for the Australian Defence Force to conduct joint operations rather than single-service operations as a matter of practical necessity. *Australia's Approach to Warfare* sought to emphasize that the effective integration of thought and action at all levels of command to achieve a common goal was the strength of the joint warfare approach.[21]

By 2003 two matters – terrorism and the spread of Weapons of Mass Destruction, including to terrorists – had emerged with new importance and created renewed strategic uncertainty. This prompted the Government to conduct a review of Australia's defense posture, leading to the publishing of *Australia's National Security: A Defence Update 2003*. The *Defence Update 2003* identified that Australia's strategic environment had changed and the threats of terrorism and Weapons of Mass Destruction were real and immediate. The review confirmed that

---

[19] Australia Department of Defence, *Defence 2000: Our Future Defence Force* (Canberra, ACT: Commonwealth of Australia, 2000), x.

[20] Department of Defence, *Australia's National Security: A Defence Update 2003*, 11.

[21] Department of Defence, *The Australian Approach to Warfare*, 23.

Australia's most important strategic objective was the defense of Australia, however, the *Defence Update 2003* identified that there was less likely to be a need for the Australian Defence Force operations in this regard. The *Defence Update 2003* further emphasized the importance of operations in Australia's immediate neighborhood and posited that there may be increased calls on the Australian Defence Force for operations in this region. Finally, it identified that Australian Defence Force involvement in coalition operations further afield was more likely than in the recent past and for the foreseeable future; operations were likely to occur within the framework of regional contingencies, the Global War on Terror, efforts to counteract the proliferation of Weapons of Mass Destruction or to otherwise improve global security and stability.[22]

As a result of the changing strategic environment articulated in the *Defence Update 2003* the Australian Army sought to revise its Future Land Operating Concept. The result of this revision was *Complex Warfighting 2004*. *Complex Warfighting 2004* analyzed the milieu of contemporary conflict to determine how land forces must function in order to be successful in this environment. It identified the present-day conflict environment as complex, varied, distributed and highly lethal. In this environment, land forces would be required to undertake an enormously wide range of tasks at the same time within the same geographical area, at short notice and in complex, urbanized terrain. To operate in this environment, land forces must be adaptable, nimble and able to coordinate effects in a precise and discriminating manner. This would require modular forces manned with highly educated and skilled personnel with a capacity for network enabled operations and optimized for close combat in combined arms teams. *Complex Warfighting 2004* envisioned that these teams would be small, semiautonomous and highly networked. The teams would incorporate traditional elements of the combined arms team as well as non-traditional elements such as civil affairs, intelligence, and psychological warfare capabilities. These teams

---

[22] Department of Defence, *Australia's National Security: A Defence Update 2003*, 25.

would have the capacity for protracted independent operations within a joint interagency framework over a distributed area of operations.[23]

In 2005 the Australian Department of Defence released another defense update: *Australia's National Security: A Defence Update 2005*. This update continued the principles in the *Defence 2000 – Our Future Defence Force* and the *Defence Update 2003*. It continued to emphasize that the primary role of the Australian Defence Force was to provide for the security and defense of Australia and her interests and continued the observation from *Defence Update 2003* that it remained unlikely that Australia would face conventional military threats. *Defence Update 2005* identified that Australia needed to develop and maintain defense capabilities that gave credible options for the pursuit of international security policies necessary to support Australia's interests. The update also emphasized the continuing need to address the current international security issues such as those in Iraq and Afghanistan.[24]

In 2007 the Australian Department of Defence released what was now becoming a regular biannual defense update: *Australia's National Security: A Defence Update 2007*. The update outlined that globalization, terrorism, the challenges posed by fragile states, and the threat of Weapons of Mass Destruction proliferation continued to shape Australia's security environment. Australia also needed to take into account relations between the major powers in its region and the changes in the use of force by states and terrorists. The update also indentified that because of their importance to Australia's interests and their potential to reshape global security, the Middle East and Asia–Pacific regions would continue to be a focus for some time. In response to this environment, *Defence Update 2007*, while confirming that the defense of Australia remained a fundamental task, continued the outward focus of the previous two updates. The

---

[23] Department of Defence, *Complex Warfighting.*

[24] Australia Department of Defence, *Australia's National Security: A Defence Update 2005* (Canberra, ACT: Commonwealth of Australia, 2005), 26.

update articulated that it expected Australia would often be called on to act as a security leader within its immediate neighborhood and that Australia would aim to make significant Australian Defence Force contributions to coalition operations where our national interests were closely engaged. Indeed, the update outlined that over 4,000 personnel were engaged in 10 operations worldwide in the pursuit of Australia's regional and global security interests.[25]

As a result of the *Defence Update 2007* the Australian Army undertook a re-examination of its Future Land Operating Concept, *Complex Warfighting 2004.* The result was *Adaptive Campaigning 2007,* which adds detail to *Complex Warfighting 2004* and describes an integrated land force response to the demands of complex war. *Adaptive Campaigning 2007* also represents a comprehensive response which frames the land force contribution as part of the military response in a whole of government approach, which sets it apart from previous Australian Army thinking.[26]

Adaptive Campaigning 2007 acknowledged *Complex Warfighting 2004's* description of war but focused specifically on the land force response with in a theater of operation, as part of a military contribution to a whole of government campaign.[27] *Adaptive Campaigning 2007* assumed that the outcome of future conflict would not be determined on the battlefield alone; rather it would be won in the minds of populations using ideas as weapons. As a result of this assumption, *Adaptive Campaigning 2007* theorized that operations could no longer be seen as the decisive phase of war. Consequently, an alternative approach to land force operations was required.[28]

---

[25] Australia Department of Defence, *Australia's National Security: A Defence Update 2007* (Canberra, ACT: Commonwealth of Australia, 2007).

[26] Australia Department of Defence, *Adaptive Campaigning: The Land Force Response to Complex Warfighting* (Canberra, ACT: Australian Army Headquarters, 2007), 1.

[27] Ibid., 2.

[28] Ibid., iii.

This alternative approach, labeled Adaptive Campaigning, was defined as: "Actions taken by the Land Force as part of a military contribution to a Whole of Government approach to resolving conflicts."[29] Its purpose was to influence and shape the perceptions, allegiances and actions of the target population and control the overall environment to allow peaceful political discourse and a return to normality. The Adaptive Campaigning approach comprises five interdependent and mutually reinforcing lines of operation. The first is Joint Land Combat which comprises "actions to secure the environment, remove organized resistance and set conditions for the other lines of operation." The second is Population Support which encompasses "actions to establish/restore or temporarily replace the necessary essential services in effected communities." The third is Indigenous Capacity Building which includes "actions to nurture the establishment of civil governance, which may include local and central government, security, police, legal, financial and administrative systems." The next is Population Protection which contains "actions to provide protection and security to threatened populations in order to set the conditions for the reestablishment of law and order." Finally Public Information (renamed Information Actions under *Adaptive Campaigning 2009*) consists of "actions that inform and shape the perceptions, attitudes, behavior, and understanding of targeted population groups."[30] Operational uncertainty dictates that land forces must be prepared to take rapid and leading action in all lines of operation simultaneously, especially in the early stages of any campaign.[31] As the situation stabilizes, a gradual transfer of responsibilities to other agencies will occur, with land forces retaining a supporting role. Key to the Land Force's chances of success will be its ability to effectively orchestrate effort across all five lines of operation. The norm in conflict for fighting would be for land forces to fight for and not necessarily with information. As a result, land force actions will

---

[29] Ibid., iii.

[30] Ibid., 3.

[31] Ibid., iii.

be characterized by the Adaption Cycle.[32] There are four steps in the Adaption Cycle: Act, Sense, Decide, Adapt. The first step is action, this is as a result of adaptation being proactive rather than reactive. It assumes that action will always occur in the face of uncertainty and the emergence of novelty. Action stimulates the system, this generates a response, such as forcing the enemy to unmask his reserve or counter attack force. This response provides information about the system, which is the basis for decisions. The final step, adapt, emphasizes that every action is a learning opportunity and explicitly considers learning how to learn. Consequently, if one takes the example of forcing the enemy to unmask his reserve or counter attack force, the Land Force may need to adapt its maneuver or task organization as a result of what it learned about this enemy action.[33]

The election of a new Australian Government and the impacts of the global economic crisis prompted a re-examination of Australia's defense policy, resulting in the *Defence White Paper 2009*. This white paper identified the global economic crisis as the most fundamental economic challenge facing the Government and placed an emphasis on fiscal responsibility. While uncertainty surrounding the crisis remained, the Government would consider it irresponsible to commit substantial new resources to Defence. The *Defence White Paper 2009* reaffirmed that it was the Government's policy that the main role of the Australian Defence Force should continue to be an ability to engage in conventional combat against other armed forces in direct support of its primary task of deterring and defeating attacks on Australia. This primary task also included Defence's vital role in supporting domestic security and emergency response efforts. Additionally, the Australian Defence Force must also be prepared to deal with intra-state conflict and be able to contend with non-state global actors in the context of its remaining

---

[32] Ibid., iii.

[33] Alex J. Ryan, "The Foundation for an Adaptive Approach: Insights from the Science of Complex Systems," *Australian Army Journal* VI, no. 3 (2009), 86.

principle tasks of contributing to stability and security in the South Pacific and East Timor,

contributing to military contingencies in the Asia-Pacific region, and contributing to military

contingencies in support of global security.[34]

As a result of this new higher guidance and new parameters, *Adaptive Campaigning 2007*

was redeveloped into the *Adaptive Campaigning-Future Land Operating Concept 2009* (here on

referred to simply as *Adaptive Campaigning 2009*). *Adaptive Campaigning 2009* is divided into

two parts: the challenge, which outlines the Australian Army's vision of the future; and the

response, which outlines its response to future conflict, including a comprehensive description of

how the future Land Force is to be modernized to undertake its directed and anticipated tasks.

The key differences between the two documents lie in the latter's inclusion of guidance from the

Defence White Paper 2009. One noteworthy aspect of differentiation is the defining of Australia's

Primary Operating Environment as an area extending from the eastern Indian Ocean to the island

states of Polynesia and from the equator to the Southern Ocean. That area contains all Australian

sovereign, offshore and economic territories, such as Cocos (Keeling) Islands, Christmas Island,

Heard and McDonald Islands, Macquarie Island, Norfolk Island and also waters adjacent to the

Australian Antarctic Territory.[35] A second is the articulation that modernizing the Australian

Defence Force will be achieved through a mixture of the Force Attributes and Capability

Development Principles for Force 2030 detailed in *Defence White Paper 2009* and the Chief of

Army's Development Intent. This amalgamation will provide a framework to produce a balanced

Land Force within the Future Joint Force.[36] The philosophical and conceptual framework for the

conduct of *Adaptive Campaigning 2009* is similar to *Adaptive Campaigning 2007*. *Adaptive

Campaigning 2009's* framework retains the five mutually reinforcing and interdependent lines of

---

[34] Department of Defence, *Defending Australia in the Asia Pacific Century: Force 2030.*

[35] Ibid., 51.

[36] Ibid., 68.

operations: Joint Land Combat; Population Protection; Information Actions; Population Support; and Indigenous Capacity Building. This framework is founded on the four key elements essential to dealing with the complexities of the future battlespace: the Operational Tenets of Success; the Adaptation Cycle; the Human Dimension; and the Operational Art and Campaigning. [37] The following section will investigate the theory behind the most novel of these four, the Adaption Cycle, and its basis in complex systems science, particularly in the theory of complex adaptive systems, as well as the impact these concepts have on doctrine and planning.

Foundation for an Adaptive Approach

As stated above, the foundations of Adaptive Campaigning can be found in the usual doctrinal fundamentals of national strategy, whole of government perspectives, military history and operational experience. However, Adaptive Campaigning does include a novel component that draws on complex systems science, particularly in the theory of complex adaptive systems. [38] Complex systems science seeks to deal with really hard problems that do not fit neatly into traditional scientific disciplines. [39] Essentially, problems in complex systems science are not determined by the particular composition of the system but by the nature of the relationships between the parts. The abstract and general language used in complex systems science has an advantage over traditional scientific discourse as it provides an interdisciplinary framework for making sense of problems that draws from across the sciences. [40] Within the field of complex systems science lays the theory of complex adaptive systems. Complex adaptive systems are different from other systems in that they have large numbers of internal parts that are loosely but

---

[37] Department of Defence, *Army's Future Land Operating Concept*, iii.

[38] Ibid.

[39] Yaneer Bar-Yam, *Making Things Work: Solving Complex Problems in a Complex World* (Cambridge, MA: NECSI Knowledge Press, 2004), 15.

[40] Ryan, *The Foundation for an Adaptive Approach: Insights from the Science of Complex Systems*, 71.

not sparsely connected.[41] These parts interact locally according to simple rules to provide the energy needed to maintain stable global patterns, as opposed to rigid order or chaos.[42] Complex adaptive systems have active internal parts that supply sufficient local diversity to enable the system to survive as it adapts to unpredicted circumstances.[43] There are vast numbers of microstates inside the systems emerging from numerous local interactions. Therefore there is a high possibility that at any time some of the microstates at least will find the existing environment favorable to survival. Variations in existing conditions result in many minor adaptations to the overall pattern of the system and a few large mutations, but it is not possible to forecast the outcome in advance.[44] Predictability in complex adaptive systems is limited to qualitative emergent patterns rather than the chaotic local details. Fundamentally, specific causes cannot be linked to particular effects.[45]

So what is the relevance of complex systems science and the theory of complex adaptive systems to warfare? Alex Ryan in "The Foundation for an Adaptive Approach: Insights from the Science of Complex Systems" states that "complex systems science offers a theoretical foundation, a coherent framework, and a common language for explaining why some approaches to complex warfighting succeed and others fail."[46] He articulates seven insights from the latest research in complex systems science to support his argument.

---

[41] Samir Rihani, *Complex Systems Theory and Development Practice: Understanding Non-Linear Realities* (London: Zed Books, 2002), 80.

[42] Stuart A. Kauffman, *At Home in the Universe: The Search for Laws of Self-Organization and Complexity* (Oxford, NY: Oxford University Press, 1995), 74.

[43] Rihani, *Complex Systems Theory and Development Practice: Understanding Non-Linear Realities*, 80.

[44] Ibid., 8.

[45] Ibid., 105.

[46] Ryan, *The Foundation for an Adaptive Approach: Insights from the Science of Complex Systems*, 74.

In his first insight Ryan argues that solving complex problems is fundamentally different to solving complicated problems. In a complicated system the parts are fixed and while they are interrelated, they are static over time. One can ascertain the nature of the problem through reductive analysis and repair the system by replacing the defective part at ones' leisure. However, in a complex system, as discussed above, while the parts are also interrelated they adapt over time. Therefore one has to have a holistic view of the system to calculate an appropriate response to a problem in that system.[47]

Ryan's second insight is that warfare contains fundamental and irreducible uncertainty and unpredictability. Carl Von Clausewitz identifies that there are three sources of unpredictability and uncertainty in war: interaction, fiction and chance. Interaction distinguishes war from mechanical arts directed at inanimate matter, because in war "the will is directed at an animate object that reacts." Friction is roughly those factors that differentiate between real war and war on paper. Chance is the tendency within the remarkable trinity – violence, chance, and rationality – characterizing war that is of most concern to the commander and his army.[48] The first person to recognize the link between the nonlinear sciences and Clausewitz was Alan Beyerchen.[49] Beyerchen in "Clausewitz, Nonlinearity, and the Unpredictability of War" concluded that an understanding of nonlinear, or complex, systems maybe a prerequisite to fully understanding Clausewitz, and that the nonlinear sciences may help to establish fundamental limits to the predictability in war.[50] The concepts of emergence, self-organization, autonomous agents, attractors and adaptation that contribute to complexity are present in war and all these

---

[47] Ibid., 74.

[48] Carl Von Clausewitz, *On War*, ed. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976).

[49] Ryan, *The Foundation for an Adaptive Approach: Insights from the Science of Complex Systems*, 76.

[50] Alan D. Beyerchen, "Clausewitz, Nonlinerarity and the Unpredictability of War," *International Security* 17, no. 3 (1992), 61.

sources of complexity generate novelty and surprise. The implication of this is that war is fundamentally and irreducibly uncertain and unpredictable.[51]

His third insight is that complex problems cross multiple scales. Complex problems cannot be solved at a single scale as they require coordination, multiple perspectives, and a systematic response because cross-scale effects interlink problems at different scales. Ryan describes here how a power law (where there is no characteristic scale for the system [52]) is an indicator for complex behavior. This points to positive feedback in the system and means that seemingly improbably large events are likely to occur.[53]

His next insight is that sources of order in complex systems come from the bottom up as well as from the top down. Winning wars often requires changing societies as well as changing oneself. Both require an understanding of the bottom up, self organizing sources of order and stability in addition to the top down, formal mechanisms for imposing order. Such an understanding helps to identify areas dominated by positive and negative feedback. Exploiting an understanding of these feedback loops and self organization can greatly enhance attempts to change the formal structures that are built on top of an informal monarch processes. Actually changing the feedback loops can lead to even greater influence over the system.[54]

Ryan's fifth insight is that adaptation is the best way to cope with complexity. Ryan defines adaption, in simple terms, as nothing more than a principled and sustained application of trial and the elimination of error. He points to the adaptive nature of life, in particular the adaptive nature of the immune system and evolution itself, as indicators of adaptation is the best way to

---

[51] Ryan, *The Foundation for an Adaptive Approach: Insights from the Science of Complex Systems*, 76.

[52] Armin Bundle, Jurgen Kropp, and Hans-Joechim Schellnhuber, *The Science of Disasters: Climate Disruptions, Heart Attacks and Market Crashes*, Vol. 2 (New York, NY: Spinger, 2002), 237.

[53] Ryan, *The Foundation for an Adaptive Approach: Insights from the Science of Complex Systems*, 77.

[54] Ibid., 79.

cope with complexity. Ryan also puts forward a hypothesis that a combination of theory, practice and reflection can help to improve learning within a complex situation, thereby enhancing individual adaptability.[55]

Ryan's next insight is adaptation requires continual refinement of system-level trade-offs. In the terminology of complex systems science, adaptability is an emergent property. One must understand the system as a whole in the context of its environment and its purpose and deliberately consider trade-offs in the way a system is organized. Trade-offs exist as there is no one right way to organize the system. From a complex systems perspective there are two main differences in how trade-offs are treated. Firstly, one must apply trade-offs to the system as a whole. This relates back to Ryan's third insight in that the multi-scale nature of complex systems means that in order to achieve adaptability at the scale of the whole system, interdependencies across all scales of the system must be considered. Secondly, one needs to take a multidimensional approach to managing trade-offs.[56] Yaneer Bar-Yam exemplifies this complex systems perspective when he explains competition and cooperation in a team sport like basketball from a multi-level perspective.[57]

Ryan's final insight is it is easier to design environments that foster adaptation than to directly impose it. Complex adaptive systems contain goal-directed autonomous agents, which are already capable of controlling themselves. Ryan's fourth insight raised the possibility of changing the landscape of the environment using informal mechanisms. Changing the environment of a complex adaptive system modifies the distribution of incentives, which encourages different patterns of behavior, and is a more indirect way of influencing the system. If the goals of the agents are understood, incentive modification may be a far more effective way of

---

[55] Ibid., 81.

[56] Ibid., 81-82.

[57] Bar-Yam, *Making Things Work: Solving Complex Problems in a Complex World*, 79.

transforming patterns of behavior than attempting prediction-based control. This requires a change in mindset away from trying to impose order on chaos towards harnessing complexity.[58]

The complex systems science connection

Ryan identifies that the Adaption Cycle is probably the most recognizable and most discussed feature of adaptive campaigning. The Adaption Cycle views conflict as a complex adaptive system and describes a cycle of interaction intended partially to change the system and partially to learn from the system.[59] Ryan states that there "have been misconceptions that the Adaption Cycle advocates acting before any surveillance or planning, and is an inferior and unnecessary variant of John Boyd's famous Observe Orient Decide Adapt (OODA) loop."[60] One such proponent of this argument is Charles Dockery. In his article "Adaptive Campaigning: One Marine's Perspective" he argues that while *Adaptive Campaigning* adds constructive detail to *Complex Warfighting 2004*, "there are concepts presented that need to be replaced or modified."[61] Dockery takes to task three particular concepts from *Adapative Campaigning*: Adaptive Action, the Adaption Cycle and "fighting for but not necessarily with information." There are a number of flaws in Dockery's argument. The overarching one is that he makes comparisons with U.S. Marine Corps Doctrine. For example he takes to task the statement:

> Traditionally the Land Force has conducted deliberate planning with the aim of arriving at a solution prior to interacting with a problem. This approach is based on the belief that the more time spent planning prior to an operation the greater the likelihood of success.

---

[58] Ryan, *The Foundation for an Adaptive Approach: Insights from the Science of Complex Systems*, 85.

[59] Ibid., 86.

[60] Ibid., 86.

[61] Charles Dockery, "Adaptive Campaigning: On Marine's Perspective," *Australian Army Journal* V, no. 3 (2008), 108.

Unfortunately, this process fails to account for the complexities and adaptive nature of the environment.[62]

Dockery implies that the aim of deliberate planning has never been to generate a solution and uses the Marine Corps Doctrine Publication (MCDP) 5 *Planning* as evidence by stating that it "lists the four key functions of the planning process as directing and coordinating action, generating expectations of how actions will evolve, developing shared situational awareness, and supporting the exercise of initiative. There is no mention of a solution."[63] However, the above statement from *Adaptive Campaigning* is not referring to Marine Corps Doctrine; it is referring to Australian Doctrine in which this was the case.[64] This follows on for the other two inaccuracies that he points out in his argument against Adaptive Action. Adaptive Campaigning was written as a basis for the future development of the Australian Army, both doctrinally and structurally. It was written as a companion document to *Land Warfare Doctrine 1: The Fundamentals of Land Warfare* and guided by Australian strategic policy, and arguments based on direct comparisons to other nations' doctrine are flawed because they ignore the cultural influences on policy and strategy and, as a result, doctrine. It should be noted that this flaw should not take anything away from some of the pertinent points that Dockery makes about planning, particularly in reference to the importance of developing a "shared situational awareness to generate emergent behaviors that are manifest in battle field initiative."[65]

The next concept that Dockery takes to task is that of the Adaption Cycle. It is in this part of his article where the two misconceptions lie that Ryan alludes to in his article. To address the first point Ryan points to an article by Lieutenant Colonel Chris Smith titled "Solving Twenty-

---

[62] While Dockery takes this statement from Department of Defence, *Adaptive Campaigning: The Land Force Response to Complex Warfighting*, 8 it has remained in principle in Department of Defence, *Army's Future Land Operating Concept*, 33.

[63] Dockery, *Adaptive Campaigning: On Marine's Perspective*, 109.

[64] Australia Department of Defence, *Land Warfare Doctrine 5-1-4, the Military Appreciation Process (Developing Doctrine)* (Puckapunyal VIC: Australian Army, 2009), 1-2.

[65] Dockery, *Adaptive Campaigning: On Marine's Perspective*, 109.

First Century Problems with Cold War Metaphors: Reconciling the Army's Future Land Operating Concept with Doctrine" which we will look at in more detail below. Smith argues that it is not realistic to expect to have the right solution from the outset when dealing with complex problems. The initial solution will tend to be vague and not fully formed as there will not be enough information available about the system to derive a complete solution, and the system will change as one starts to implement it, requiring one to reframe based on the new conditions. It is for this reason that Adaptive Campaigning emphasizes initial action based on a best estimate of the problem, regardless of how well informed and purposeful it might be, in order to stimulate the system and increase understanding of the environment and problem in order to form a more complete solution.[66] Ryan points out that the second misconception confuses the tactical focus of the OODA loop, born out of the experience of one-on-one duels of fighter pilots, with the more strategic ability to adapt. Whereas the OODA loop underpins a faster decision cycle, the Adaption Cycle promotes a faster learning cycle. This may very well be the case; however, the importance of adapting at the operational and tactical level should not be overlooked. The importance of being able to adapt at all levels indicates a much closer relationship between the OODA Loop and the Adaption Cycle than the proponents of each recognize. They are both important concepts in their own right; however, as we will see below, used together they can generate a learning decision cycle that is greater than the sum of its parts.

Reconciling Doctrine

In his article "Solving Twenty-First Century Problems with Cold War Metaphors: Reconciling the Army's Future Land Operating Concept with Doctrine" Smith describes the differences between linear systems and complex adaptive systems and then discusses the tensions

---

[66] Christopher Smith, "Solving Twenty–First Century Problems with Cold War Metaphors: Reconciling the Army's Future Land Operating Concept with Doctrine," *Australian Army Journal* VI, no. 3 (2009), 96.

and inconsistencies between adaptive campaigning and elements of land warfare doctrine. He illuminates the limitations of doctrinal methodologies for designing and planning operations and campaigns to deal with complex problems, and posits that the U.S. Army approach to campaign design might provide a basis for taking corrective action. He concludes by contending that, while most of the legacy metaphors and planning methodologies have enduring relevance, the imperative to deal with complex problems demands a more sophisticated approach to operational art and design, which will have immediate implications for officer education and the army's doctrine and culture.[67]

Of particular note, Smith states that as complex problems have no central point of control that the 'center of gravity' metaphor is not universally applicable and can lead to flawed thinking about complex problems. Nonetheless, he does acknowledge that the center of gravity metaphor is not without utility. He identifies that there are many simple military problems, more often than not at the tactical level, for which center of gravity might apply.[68] However, the 'center of gravity' concept has potentially more utility than Smith identifies. Clausewitz, in one of his explanations of center of gravity, states that fighting forces, whether a single state or an alliance, have a certain unity and therefore cohesion; and where there is cohesion, the analogy of the center of gravity can be applied. He goes on to explain that these forces will possess certain centers of gravity that govern the rest. He then asserts that those centers of gravity can be found where the forces are most concentrated.[69] What is important to note here is Clausewitz's indication that there are multiple centers of gravity, particularly in alliances, and that the effect produced on a center of gravity is determined and limited by the cohesion of its parts.[70] So how does this relate

---

[67] Ibid.

[68] Ibid., 95.

[69] Von Clausewitz, *On War*, 486.

[70] Ibid., 486.

to complex systems? In Clausewitz's description of multiple forces, each with centers of gravity, that form a cohesive whole, he is describing a system. Due to this being a human system it is inherently complex and will adapt over time. Therefore there is utility in conducting a center of gravity analysis on actors that display characteristics of concentration and potential cohesive relationships with other actors within a complex system.[71] The conduct of this analysis can assist in identifying which relationships can be influenced to achieve the desired effect on the system. Care still needs to be taken in the utilization of center of gravity analysis to ensure that it does not become the sole foundation of planning process, otherwise it can lead to the pitfalls Smith identified. It is also acknowledged that current Australian Army doctrinal accounts of center of gravity analysis do not contain the nuances discussed here that can be derived from a careful reading of Clausewitz.

Smith also identifies that Kelly and Brennan's interpretation of Adaptive Campaigning has important implications for the form and use made of military plans because it implies that only after interacting with a system will the problem and the desired end fall into focus. This is further complicated by the fact that the interaction may cause the problem and therefore the end to change. However, this is only partially true. It is possible to receive information from a system without interacting with it. Yaneer Bar-Yam identified at the third International Conference on Complex Systems that systems emit energy.[72] An example is a person who is not part of the system but plans on becoming part of the system can receive information about it, in the news or in books, without interacting with the system. The generation of this "energy" is as a result of the system in motion, however, observing this energy over time can reveal the tendencies and the

---

[71] An empirically relevant framework for center of gravity analysis is outlined in Joe Strange, *Centers of Gravity and Critical Vulnerabilities: Building on the Clauswitzian Foundation so that we can all Speak the Same Language* (Quantico VA: Marine Corps University, 1996).

[72] Ali A. Minai and Yaneer Bar-Yam, *Unifying Themes in Complex Systems: Proceedings from the Third International Conference on Complex Systems*, Boston MA ed. (New York NY: Springer, 2006), 122.

potentials of the system before the person acts on the system. This re-emphasizes Ryan's point

above about the "misconceptions that the Adaption Cycle advocates acting before any

surveillance or planning." As Smith points out, action is "based on a best estimate of the

problem" which implies that one has already received some "energy" from the system to gain an

estimate of the problem. This shows that John Boyd's OODA loop and the Adaption Cycle

complement each other. One can initially enter a system through a cycle of the OODA loop,

however, this may result in an initial theory that is vague and not fully formed and the system will

change as one starts to implement it, requiring one to reframe based on the new conditions. At

this point one can transition into an Adaption Cycle and act based on a best estimate of the

problem in order to stimulate the system and increase understanding of the environment and

problem in order to form a more complete solution before transitioning back to an OODA cycle

or continue in an Adaption Cycle to continue to increase ones understanding of the environment

and problem. By utilizing both cycles it allows one to both learn and decide faster.

The final point of Smith's that will be discussed is planning and design. Smith states that

the Australian Army's Military Appreciation Process, when dealing with complex problems with

no central point of control, looses relevance as there is no single center of gravity.[73] This

weakness is born out of a key activity in the Military Appreciation Process, the development of

decisive events. Decisive events as developed through assessment of the enemy's center of

gravity and its critical vulnerabilities and merging them with essential tasks.[74] Smith identifies

this as a good example of the Military Appreciation Process's linear approach to problem

---

[73] Smith, *Solving Twenty-First Century Problems with Cold War Metaphors: Reconciling the Army's Future Land Operating Concept with Doctrine*, 95.

[74] Australia Department of Defence, *Land Warfare Doctrine 5-1-4, the Military Appreciation Process* (Puckapunyal VIC: Australian Army, 2001), 3-35.Department of Defence, *Land Warfare Doctrine 5-1-4, the Military Appreciation Process (Developing Doctrine)*.

solving.[75] This all makes good sense; however, Smith then goes on to say that the Military

Appreciation Process is almost identical to the U.S. Army's Military Decision Making Process

and as a result it suffers from the same weaknesses. The problem with this comparison is that on

the surface they may seem the same but the key difference between the two is actually the

weakness that Smith identifies. The U.S. Army does not recognize center of gravity at the tactical

level and as such there is no development of decisive events as a basis for course of action

development. Smith is correct in that the Military Decision Making Process has proved to be

inadequate at addressing context, recognizing changes in context, and spawning creativity in

dealing with contemporary conflicts. However, this is more as a result of how this process is

taught and practiced, i.e. in a linear fashion, rather than the process itself. This aside, Smith is

correct in that processes founded in linear approaches, either through the construct of the process

itself as in the Military Appreciation Process or the way it is practiced as in the Military Decision

Making Process, are suboptimal for solving complex problems. This shortcoming is identified in

Adaptive Campaigning 2009, where it is acknowledged that much of the existing Joint and Army

doctrine has a linear focus on the direct force-on-force encounters and that an examination of

planning doctrine needs to be conducted to ensure that it can accommodate the more complex and

diffuse problems likely to be encountered.[76]

Summary

Adaption is a key factor in coping with complexity. Through a combination of theory,

practice and reflection one can improve learning within a complex situation, thereby enhancing

individual adaptability. The Adaption Cycle is a key component of this and through its view of

conflict as a complex adaptive system one can describe a cycle of interaction to change the

[75] Smith, *Solving Twenty-First Century Problems with Cold War Metaphors: Reconciling the Army's Future Land Operating Concept with Doctrine*, 95.

[76] Department of Defence, *Army's Future Land Operating Concept*, 39.

system and learn from the system. As complex problems have no central point of control, the execution of simultaneous lines of operation, not sequential (linear) action, is the key to affecting lasting desired change on a system. Linear metaphors, such a center of gravity, are still useful, however, care needs to be taken in their utilization to ensure that they do not become the sole foundation of a planning process or operational framework, otherwise they can lead to the pitfalls identified above. When dealing with complex adaptive systems, an open mind needs to be maintained and all tools and options left on the table. Commanders and staffs should not dismiss new or old concepts without due consideration because, as has been shown with the discussion on John Boyd's OODA loop and the Adaption Cycle, these processes may complement each other and utilizing both may enhance operational effectiveness. There does remain a challenge to traditional planning, however, and the existing Joint and Army doctrine has a linear focus on the direct force-on-force encounters. An examination of planning doctrine still needs to be conducted to ensure that it can accommodate the more complex and diffuse problems likely to be encountered.

Overwatch Battle Group (West) 1

This case study will look at the adaptations made by Overwatch Battle Group (West) 1 to the then current Australian doctrine for the planning and execution of counterinsurgency operations in Al Muthanna and Dhi Qar Provinces in Iraq and how this contributed to the development of adaptive campaigning doctrine by providing an example of adaptive campaigning in action. This case study is of particular interest because it was developed utilizing the concepts of *Complex Warfighting 2004*. The adaptations and the initial campaign plan were developed without any significant knowledge of *Adaptive Campaigning 2007*, although the receipt of the draft *Adaptive Campaigning 2007* during the planning phase for the transition to the over watch mission did confirm many of the Battle Group's adaptations and created some others. As such the commonality between Overwatch Battle Group (West) 1's operational approach and *Adaptive*

Campaigning 2007 are significant as they highlight that operational commanders and staffs were identifying that nonlinear approaches were what the operational environment was demanding. [77]

Operational Background

In May 2006, the Al Muthanna Task Group 3 arrived in Iraq and was based in the southern Iraqi province of Al Muthanna. It was made up of approximately 450 personnel and consisted of a headquarters, a cavalry squadron, an infantry company and the Australian Army Training Team – Iraq. As part of a British-led task force the Task Group's initial mission was to protect the Japanese Iraq Reconstruction Group, which was responsible for a number of reconstruction projects in the province, and the security of the British and Australian base, Camp Smitty. The Australian Training Team was responsible for training the Iraqi Army in the province while the British were responsible for training and mentoring the police and border guards in the conduct of security operations within the population centers and along the Saudi Arabian border. The Task Group's operations during this period were focused according to the Japanese Reconstruction Group's priorities. The Task Group would set the conditions for security during the Japanese movement to the project sites, at the site, and for their return. Concurrently, elements of the Task Group provided security for Camp Smitty through static defense and active patrolling. These operations continued for the first two months of the deployment.

In the lead up to the deployment the Task Group had been advised that Al Muthanna province was going to be the first province to transition to Provincial Iraqi Control. This would see the British elements move to Basra, the Japanese withdraw from Iraq, and the Task Group's mission change to over watch of the province from a base in Tallil. Early in the deployment the priority for planning became the transition of control to the Iraqis. This included the mediation

---

[77] Personal Experience. The author was on the staff at the time as the S33 (Battle Captain) and recalls when they received a draft of Adaptive Campaigning 2007 and the conversation regarding its commonality with the S3, then Major Chris Smith.

and handover of the two camps to the Iraqis, the security of all Japanese assets out of the province, the movement of the Task Group to its new base in Tallil, and the defining of the over watch mission and the development of a campaign plan.[78] Provincial Iraqi Control meant that the tactical initiative and ownership of the province had been handed across to the Iraqis. Therefore, every action on the Battle Group's behalf was a form of intervention. The response (effect) was much more obvious than with previous contingents and therefore had to be managed very carefully.[79] Of particular concern was the Information Operations message of the transition to Iraqi control and what it meant. This had to encompass the fact that although the Iraqis were now in charge they would still see Australian troops in the province. This hinged on the development by the task force commander, a British Colonel, of a memorandum of understanding with the provincial governor on what the Task Group should be doing post transition and then the communication of this to the population. Even though a lot of effort went into this aspect there were still misunderstandings, deliberate or otherwise, during the conduct of the over watch mission.

The transition to Iraqi control went smoothly with no major contacts with militia elements and there were significant Iraqi celebrations at the transition ceremony. The Task Group was reinforced, to 550 personnel with extra mobility assets, renamed the Overwatch Battle Group (West) and relocated to Tallil Air Base in Dhi Qar province. The Battle Group's operations centered on mentoring the Iraqi Army and providing assistance to the Iraqi Police. Central to this was leadership engagement. These engagements with the Governor and the key leaders of the Army and the Police allowed commanders to understand what was occurring within the province. This would allow the Battle Group to preempt crises through mentoring the Iraqi security forces

---

[78] Laurence Lessard, "Operational Leadership Experiences in the Global War on Terror: Interview with MAJ Chris Smith" (Fort Leavenworth KS, Combat Studies Institute, January 11, 2008).

[79] Michael Mahy, e-mail message to author and Christopher Smith, May 1, 2007.

in their operations, assisting them if necessary. Additionally, in the event of a major crisis, the

Battle Group had the capacity to restore order, re-stabilize the situation, hand back control to the

Iraqis, and withdraw. In the final month of the operation the Battle Group assumed over watch of

Dhi Qar Province from the Italians who withdrew from Iraq after they transitioned the province to

Provincial Iraqi Control. This resulted in the Battle Group being responsible for Al Muthanna

province, one of the biggest provinces of Iraq, and Dhi Qar Province, which included a major

population center of over half a million people, Nasiriyah, and a major coalition base at Tallil.[80]

The Operational Approach

In the context of the above operational environment the planning staff developed an

operational approach along eight simultaneous lines of operation as depicted in Figure 1. In this

approach each line of operation was a plan in itself. This could take the form of a supporting plan

to the main effort articulated as an annex to the Operation Order (OPORD), or an operation in its

own right articulated as a Fragmentary Order (FRAGO). Action cycles were simply arbitrary time

periods that allowed for a regular act, sense, decide, and adapt rhythm that was congruent with

the rate of change in the local system. Each line of operation was described with an effect or

objective.[81] Each effect required the achievement of subordinate effects/objectives. They may

also have been lasting or finite. These effects may have been enduring and required that particular

state to be maintained, or may have been at various stages of development towards an end state.

In some cases the end state might have been achieved and the line of operation ceased. In others

an end state might have been achieved but the line continued in order to maintain the end state

---

[80] Lessard, *Operational Leadership Experiences in the Global War on Terror: Interview with MAJ Chris Smith*, 6-8.

[81] An effect is the physical or behavioral state of a system that results from an action, a set of actions, or another effect. An objective is a clearly defined, decisive, and attainable goal towards which a military operation is directed. Joint Chiefs of Staff, *Joint Publication 1-02: Department of Defense Dictionary of Military and Associated Terms* (Washington, D.C.: Department of Defence, United States of America, 2010), 117 & 265.

conditions. The black and white stars depict decisive points or operational milestones, e.g. conduct of elections or handover to local security forces. The black stars were specific decisive operations to achieve an immediate decisive effect, e.g. a search and detention operation to capture a person of interest. The main effort was articulated by line of operation. It was easily shifted as the situation developed. During planning and review sessions the commander and staff looked to exploit opportunities in one line of operation created by activities in another. Lines of operation were not discrete entities and affected each other. Maintaining situational awareness was simply the intelligence cycle and ongoing Intelligence Preparation of the Battlefield tied to the action cycle through "Probing the system". Probing the system had a direct correlation to the adaption cycle. Action was used to stimulate or probe the system, which generated a response, such as forcing the adversary to unmask from below the discrimination threshold or provoking an actor to behave a certain way. This response provided information about the system, which was reviewed and used for the basis for decisions that informed planning for the next cycle. During planning the force determined if it needed to adapt and if so integrated this into the plan.[82] The plan integrated the four levels of Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR). These were as follows: Broad collection to understand the wider situation [Istar]; Collection to support achievement of effects/objectives and to determine effectiveness of these efforts [IsTAr]; Support to ground maneuver planning (movement in the battle space as different to effect delivery) [iSTAR]; and immediate support to ground maneuver (i.e. over watch) [iStaR].[83]

---

[82] Ryan, *The Foundation for an Adaptive Approach: Insights from the Science of Complex Systems*, 86.

[83] The capitalisation of the individual letters in ISTAR (Intelligence, Surveillance, Target Acquisition, and Reconnaissance) within the square brackets denotes which element is dominant in that level.
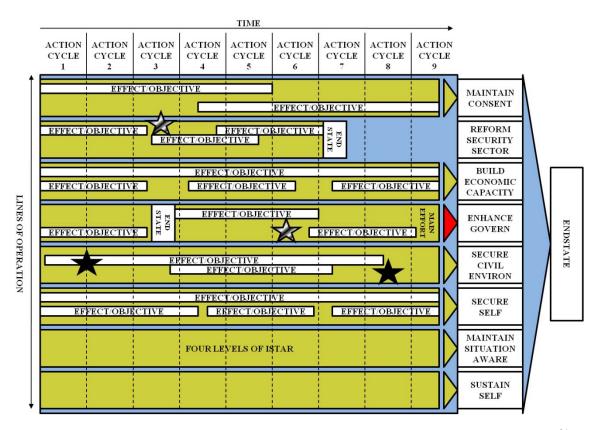
Figure 1. A generic version of the operational approach for Overwatch Battle Group (West) 1.[84]

Comparison

The Maintain Consent line of operation approximately aligns with Adaptive

Campaigning's Information Actions line of operation as its purpose was to inform and shape the

perceptions, attitudes, behavior and understanding of targeted population groups in order to

reinforce actions within the other lines of operation.[85]

The Reform Security Sector line of operation aligns with Adaptive Campaigning's

Indigenous Capacity Building line of operation and the Security Sector Reform operating

concept. This operating concept focuses on the transformation or establishment of security

---

[84] Figure 1 shows the generic campaign plan that was used by the Battle Group. The lines of operation and the main effort are the ones actually used; however, the other detail has been removed for security purposes. Christopher Smith, "Overwatch Battlegroup (West) Lessons in Planning and Executing Counterinsurgency Campaigns" (Essay, 2007).

[85] Department of Defence, *Army's Future Land Operating Concept*, 50.

institutions (Judiciary, Police and Armed Forces) that are effective, legitimate and accountable.[86] As the Overwatch Battle Group (West) 1 did not have any elements permanently co-located with the Iraqi Security Forces as ownership of the province had been handed across the Iraqis this was achieved through monitoring, mentoring and advising the through regular visits and regular communication with key leaders.[87]

The Build Economic Capacity line of operation aligns with Adaptive Campaigning's Indigenous Capacity Building line of operation, but also with the Stable Economic operating concept. The provision of a stable self sustaining economy was essential in achieving long term national stability for the host nation and was dependent upon the provision of a stable security environment, a functioning government, and effective civil infrastructure.[88]

The Enhance Governance line of operation also aligns with Adaptive Campaigning's Indigenous Capacity Building line of operation and with the Effective Indigenous Government operating concept. These actions aimed to deliver effective indigenous government processes including: financial administration, restoration and/or reform of the public service, the development of an accountability mechanism, due electoral processes, policy development, and civil education and communications capabilities. [89] As an example, the Commanding Officer had responsibility for mentoring and advising the Governor as well as the Iraqi Army commander.

The Secure Civil Environment line of operation aligns with Adaptive Campaigning's Population Protection line of operation and those actions to provide immediate security to threatened populations in order to control residence, identity, movement, assembly and the distribution of commodities, thereby setting the conditions for the establishment of order and the

---

[86] Ibid., 55.

[87] Michael Mahy, e-mail message to author and Christopher Smith, May 1, 2007.

[88] Department of Defence, *Army's Future Land Operating Concept*, 55.

[89] Ibid., 54.

rule of law.[90] In the case of Overwatch Battle Group (West) 1 this was achieved through mentoring and advising the Iraqi security forces, as ownership of the province had been handed across the Iraqis.[91]

The Secure Self line of operation contains elements of the Adaptive Campaigning's Joint Land Combat. This line of effort synchronized and sequenced the actions of the maneuver forces to achieve the maximum level of mission orientated force protection to conserve the force and achieve the mission.[92]

End State vs Stable or Desired State

Adaptive Campaigning aims to influence and shape the overall environment to facilitate peaceful discourse and stabilize the situation, noting that there may be no end state to an operation but rather an enduring set of conditions conducive to Australia's national interests. [93] In line with this the Overwatch Battle Group (West) found it advantageous to define the state of the society, or a geographic portion of the society, that the counterinsurgent intends to restore/maintain.[94] The Battle Group was less concerned about the military defeat of the insurgent himself but rather preventing the insurgent's cause from gaining purchase in the prevailing society. This requires the establishment and then maintenance of certain conditions in the society at stake. The Battle Group found that a thorough and detailed description of the circumstances and conditions to be restored and/or maintained was fundamental in a counterinsurgency campaign and in stability operations in general.[95]

---

[90] Ibid., 48.

[91] Michael Mahy, e-mail message to author and Christopher Smith, May 1, 2007.

[92] Department of Defence, *Army's Future Land Operating Concept*, 47.

[93] Ibid., iv.

[94] Smith, *Overwatch Battlegroup (West) Lessons in Planning and Executing Counterinsurgency Campaigns*, 1.

[95] Ibid., 1.

Operational Framework

Adaptive Campaigning identifies that, generically, the Land Force should be prepared to consider tactical actions within an operational framework of interdependent and mutually reinforcing lines of operation.[96] This is supported by Smith, who identified that the Overwatch Battle Group utilized their operational framework of interdependent and mutually reinforcing lines of operation to provide the skeleton from which contingency plans, ongoing concurrent operations, and short term limited objective operations were anchored.[97] These lines of operation were not necessarily discrete operations but a series of sequential and simultaneous minor effects and objectives that lead to the achievement of, or maintenance of, a major effect, objective, or set of conditions. The campaign plan comprised several sequential or simultaneous lines of operation that led to the campaign end state.[98]

The Battle Groups operations, while planned on a timeline and aimed towards a series of decisive events for the sake of efficiency and task organization, weren't linear or repetitive in execution.[99] It was the constant small actions of the Battle Group across the lines of operation over protracted periods of time that proved to be effective. Stability and reconstruction efforts that improved the quality of life of the civil population had no decisive moment. Success was realized through the steady application of broad effects over time to build legitimacy of the force and the Iraqi Government and security forces. Local consent for the Battle Group's presence and actions was not achieved by a single decisive action.[100] In fact a single action could quickly

---

[96] Department of Defence, *Army's Future Land Operating Concept*, 41.

[97] Smith, *Overwatch Battlegroup (West) Lessons in Planning and Executing Counterinsurgency Campaigns*, 2.

[98] Ibid., 2.

[99] Michael Mahy, e-mail message to author and Christopher Smith, May 1, 2007.

[100] Smith, *Overwatch Battlegroup (West) Lessons in Planning and Executing Counterinsurgency Campaigns*, 2.

destroy consent and dislocate forces. For the Battle Group consent was built through actively

demonstrating legitimacy in the context of the stakeholders.[101]

Cycle of Operations

When the Overwatch Battle Group was deriving their cycle of operations they did not

have the benefit of Adaptive Campaigning. As such, they drew on the accepted theory of Boyd's

OODA Loop in constructing a cycle that fulfilled the four functions of observe, orientate, decide

and act.[102] However, Smith identified that while the observe and act parts of the process are self-

explanatory, the orientate and decide parts can be quite difficult to achieve. The orientate and

decide steps are difficult because they require the command and staff to synthesize the broad

situation, put it into context of recent and current actions, and determine what action to take

next.[103] This has a strong correlation to the Adaption Cycle and reinforces the previous point that

John Boyd's OODA loop and the Adaption Cycle complement each other. Smith identifies that

one needs to initially enter a system through a cycle of the OODA loop. However, to synthesize

the broad situation, put it into context of recent and current actions, and determine what action to

take next, i.e. learn about the system, one needs to transition into an Adaption Cycle and act

based on a best estimate of the problem in order to stimulate the system and increase

understanding of the environment and problem in order to form a more complete solution.

For the Overwatch Battle Group the decision and adaptation process commences with an

operational review. This was an adaptation of the mission analysis stage of the Military

Appreciation Process. The review commenced with all the available staff and subordinate

commanders being briefed on the broad situation by the intelligence staff. This was followed by a

---

[101] Michael Mahy, e-mail message to author and Christopher Smith, May 1, 2007.

[102] Smith, *Overwatch Battlegroup (West) Lessons in Planning and Executing Counterinsurgency Campaigns*, 3.

[103] Ibid., 3.

briefing by each of the lines of operation custodians on the status of their line of operation. This

included a summary of actions taken, what action was to take place in the next cycle, and an

indication of the long-term direction of the operational line.[104] This process allowed the

commander to monitor the progress of the campaign and ensured that all actions were congruent

with the current situation. Most importantly, it allowed the commander and his staff to maintain a

common understanding of the situation and the conduct of the campaign, to detect linkages

between lines of operation, and identify opportunities provided by recent actions and planned

actions in one line of operation relative to the other lines of operation. The review stage

culminated with a summary of the actionable outcomes of the session by the chief of staff or the

commander. This was an opportunity for the commander to set priorities, shift main effort, and

influence the progress of the campaign through rearticulating of his intent. Main effort was

expressed in terms of the operational lines and was shifted between these lines to reflect current

campaign priorities. The summary by the commander set the course for the detailed planning

which followed. Smaller informal OODA loops and Adaption Cycles occurred within the formal

loops, indicating that adaptation occurred at multiple scales. Smith identified that immediate or

intuitive decisions, adaptations and actions within an action cycle are vital. The operational

framework supported rapid decision making, effective improvisation, and rapid responses to

incidents during an action cycle by providing a clear point of reference.[105]

Execution

An example that displays the essence of the over watch mission and the operational

approach was the Al Khidr Iraqi Police Service incident that occurred on the morning of 11

September 2006 in the town of Al Khidr, Muthanna Province. Al Khidr was a town 80 kilometers

---

[104] Ibid., 3-4.

[105] Ibid., 4.

to the northeast of the Battle Group's base at Tallil. Al Khidr has a population of approximately 5,000 and is divided by the Euphrates River. In the period leading up to the incident the Battle Group had been concerned about the security situation in Al Khidr, due to Iraqi Police Service and Iraqi Army elements being drawn into As Samawah to support the Iraqi Security Force elements there. Additionally, the Battle Group was unsure whether the recently appointed Chief of Police was going to be complicit with Jaish al-Mahdi or impose the rule of law.

This question was answered on the morning of 11 September, 2006 when the Al Khidr Iraqi Police Service arrested three Jaish al-Mahdi members suspected of murdering a Criminal Investigation Unit Officer. This was a significant show of force by Chief of Police and the Al Khidr Iraqi Police Service. As a result at approximately 1650 hours an estimated 25 Jaish al-Mahdi fighters surrounded the Iraqi Police Service Headquarters demanding the release of the suspects, forcing the Iraqi Police Service to take up defensive positions inside and on the roof of the headquarters building. The Battle Group was notified through local sources at about 1720 hours. The Battle Group immediately called for and received ISTAR support through a surveillance aircraft at 1745 hours. Concurrently the Battle Group started contacting its local Iraqi Security Force sources and through the Joint Operations Center was informed that the Governor had already authorized the reaction of six Iraqi Police Service patrols, six Provincial Enforcement Brigade patrols and an Iraqi Army company to the Iraqi Police Service Headquarters in Al Khidr. Through voice descriptions from the surveillance aircraft the Battle Group was able to monitor the arrival of the Iraqi Army company at the Iraqi Army Barracks. The Battle Group was also able to monitor the dispositions of personnel and vehicles at the Jaish al-Mahdi locations, particularly the Jaish al-Mahdi building to the north of the Al Khidr Iraqi Police Service Headquarters. Through the Battle Group's local sources it was able to monitor the Iraqi Security

Force responses and follow Chief of Police's successful negotiation with Jaish al-Mahdi to maintain the suspects in custody and de-escalate the situation.[106]

This situation shows the essence of the over watch mission and the Battle Group's operational approach. The Battle Group, using its operational framework of interdependent and mutually reinforcing lines of operation was able to continually monitor the situation, synthesize the broad situation, put it into the context of the desired state as well as recent and current actions, and determine what action to take. In the case of the above example it was to posture for action and exploit their established relationships. This enabled the Iraqis, who were in the lead, to carry out their responsibilities unsupported to a successful conclusion. The Battle Group was able to bring about the desired outcome of strengthening of the Iraqi Police Service's position while eroding the insurgent's cause in Al Khidr without the need to intervene directly. The campaign plan provided the logic of why direct intervention would have undermined the local authorities, eroding indigenous capacity and potentially resulting in negative information actions.

Summary

By adapting the mission analysis stage of the Military Appreciation Process into the operational review and defining the state of the society that they intended to restore/maintain rather than an end state, the Overwatch Battle Group (West) recognized the requirement to modify traditional planning processes to cope with complexity. This supports the assertion in Adaptive Campaigning that there may be no end state to an operation but rather an enduring set of conditions conducive to Australia's national interests. Further supporting Adaptive Campaigning as a framework for campaign design was the Overwatch Battle Group's operational framework of interdependent and mutually reinforcing lines of operation to provide the skeleton

---

[106] Michael Bassingthwaighte, "Iraq Journal" (Journal, 2006). Entry of September 11, 2006. This Journal was derived directly from the daily situation reports and incident reports generated by the Battle Group.

from which contingency plans, ongoing concurrent operations, and short term limited objective operations were anchored. While the lines of operations were labeled differently, the lines of operation recommended in Adaptive Campaigning are sufficiently broad to cover the range of actions performed by the Overwatch Battle Group. The strong correlation with the Adaption Cycle in the Overwatch Battle Group's cycle of operations reinforces its utility and supports the previous point that John Boyd's OODA loop and the Adaption Cycle complement each other in stimulating the system and increasing understanding during operations.

Reconstruction Task Force 3

This case study will look at how the Reconstruction Task Force 3's tactical actions in Uruzghan province, Afghanistan, demonstrate how the principles of Adaptive Campaigning can be applied in an operational setting. This case study is of particular interest because its commander was involved in the formulation of Adaptive Campaigning, and due to general strategic and operational guidance the task force relied heavily on Adaptive Campaigning as a framework for its operational approach and tactical actions. [107]

Operational Background

In August 2006, the first of four Reconstruction Task Forces deployed to Uruzgan Province, comprising both security and reconstruction personnel. It worked on community-based projects as part of the Netherlands-led Task-Force Uruzgan.[108] By the second rotation of the Reconstruction task force these community-based projects had been expanded to include the construction of security-based infrastructure on the approaches to the provincial capital, Tarin Kowt. In the lead-up to the third rotation of the Reconstruction Task Force it become apparent to

[107] David Wainwright, e-mail to author, November 5, 2010.

[108] Australia Department of Defence, "History of Australia's Military Commitment in Afghanistan," *Australian Defence Force*, http://www.defence.gov.au/defencenews/articles/1017/files/4_History%20of%20Australia's%20military%20commitment%20in%20Afghanistan%20Fact%20Sheet%204.pdf (accessed February 21, 2011).

its commanders that despite this being the third rotation there was no substantial guidance to base the Task Force's operational design upon. In an effort to give the Task Force some initial direction and with input from his predecessors, its commander Lieutenant Colonel David Wainwright identified a mission, based on the strategic guidance. This mission articulated that the Reconstruction Task Force, as part of Task Force Uruzghan, was to conduct protected reconstruction operations in Uruzghan province in order to shape target population groups and progress indigenous capacity towards self-reliance.[109]

The Operational Approach

Lacking a directed operational approach, the commanding officer and his staff identified that the purpose of its operations was to conduct analysis-led operations that focused the delivery of the side effects on target population groups and progress indigenous capacity towards self-reliance. The Task Force would achieve this by delivering effects that shape local perceptions, behaviors and attitudes on target population groups. Target population groups were defined as micro societies that were receptive to coalition force and Government of Afghanistan influence. The benefits of influencing these population groups had to outweigh any potential cost or risks associated with delivering sustainable effects to leave an enduring legacy. This was to be achieved through analysis-led protected reconstruction operations in partnership with coalition forces and Afghan National Security Forces. The end state was for protected reconstruction operations to shape targeted population groups to progress indigenous capacity towards self-reliance, and the conditions had been set for the transfer of Reconstruction Task Force responsibilities to other coalition forces or the Afghan national security forces.[110]

---

[109] Australian Army, *Reconstruction Task Force 3* (Brisbane, QLD: Sunset Digital, 2008), 26.

[110] Ibid., 26.

Operation Spin Ghar

As the Task Force had only received general guidance from its strategic sponsor and in many ways situational awareness developed at the tactical level was dislocated from the views in Canberra at that time, the Task Force used its first major operation, Operation Spin Ghar, to frame its actions and prepare the design for the next Reconstruction Task Force.[111] Operation Spin Ghar was the first major operation undertaken by the Task Force. Taliban control of the Baluchi Pass and northern Dorafshan area had increased over the 2007 fighting season. They now had almost total control and freedom of movement within the area and were set to increase their tempo of operations prior to the winter period. Regional Command (South) responded with a major operation designed to clear the Chora Valley, Baluchi Pass and northern Dorafshan of Taliban in order to allow increased Government of Afghanistan influence and reconstruction. The Reconstruction Task Force's contribution was the construction of the Kala Kala, Nyazi and Sangar Check Points. Construction was supported by the conduct of patrols in the Chora Valley, which led to the discovery of several caches and increasing knowledge of Taliban operations within the area.

The concept of operations for the Reconstruction Task Force as part of this operation was as follows. Combat Team Hammer (the engineer based combat team) conducted prefabrication and prepositioning of construction stores. The establishment of a command and control node was supported by the allocation of liaison officers to Task Force - Uruzghan and the Reserve Battle Group (South). Once conditions were set by the Reserve Battle Group (South), Combat Team Spear (the maneuver based combat team), task organized to provide a security element and a construction element, maneuvered from Forward Operating Base Ripley with the Reserve Battle Group (South) reserve to secure a position south of the Chora Pass. Combat Team Spear then

---

[111] David Wainwright, e-mail to author, November 5, 2010.

conducted a relief in place with elements of the Reserve Battle Group (South) in the vicinity of

Nyazi village in order to commence construction of the Nyazi Check Point. Afghan National

Security Forces would also conduct security operations in support of the Reconstruction Task

Force reconstruction efforts. Upon completion, Nyazi Check Point was handed over to the

Afghan National Security Forces. Subsequently, the Reconstruction Task Force conducted an air

mobile insertion of an extra infantry platoon in order to conduct a deliberate clearance of Route

90 and Kala Kala Village. Simultaneously, Combat Team Spear elements would also construct

the Sangar Check Point overlooking the river crossing on the southern access road into the Chora

district center. The clearance was followed by relief in place with the Afghan National Security

Forces of the Sangar Check Point and the construction of the Kala Kala Check Point. Upon

completion of the Kala Kala Check Point the Reconstruction Task Force handed over

responsibility to the Afghan National Security Forces and maneuvered to secure a point south of

the Sangar Check Point. This enabled the command and control node to be collapsed. The

operation concluded with the redeployment of the Reconstruction Task Force to Forward

Operating Base Ripley.[112]

Comparison

From the conduct of Operation Spin Ghar and the foundations and experiences of the

previous Reconstruction Task Forces, Reconstruction Task Force 3 developed an operational

design across several lines of effort as depicted in Figure 2.

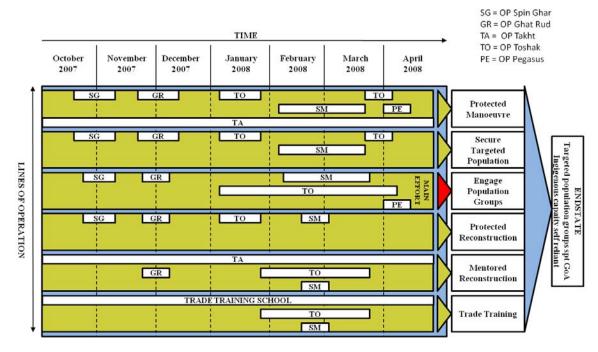[112] Australian Army, *Reconstruction Task Force 3*, 34.

Figure 2. Lines of Effort and Operations of Reconstruction Task Force 3.[113]

The first line of effort was protected maneuver and it contains elements of the Adaptive

Campaigning's Joint Land Combat. This line of effort synchronized and sequenced the actions of

our maneuver forces to achieve the maximum level of mission orientated force protection to

conserve the force and achieve the mission.[114] This line of effort linked the operational objectives

to the tactical tasks involved in maneuvering to and from different areas of operation and

allowing the task force to seize the initiative in those areas of operation through the effective

application of the Adaption Cycle at the minor tactical level.[115] Operationally, this resulted in the

Combat Teams employing deliberate maneuver, utilizing the doctrinal advance as a baseline to

maneuver to and from distributed areas of operation. The force would be organized into an

Advance Guard, Main Body and Rear Guard. The Advance Guard would be broken down into the

---

[113] Figure 2 is not the actual Lines of Effort chart used by the Reconstruction Task Force 3. The above chart was constructed from an analysis of the Commanders Intent and the operations themselves. Ibid.

[114] Department of Defence, *Army's Future Land Operating Concept*, 47.

[115] Ibid., 44.

46

Van Guard consisting of a Combat Engineer Troop minus and an Infantry Platoon minus and the Main Guard consisting of a Cavalry Patrol and the Combat Team Tactical Headquarters. The Main Body would consist of the Combat Team Main HQ, any engineer construction elements and the echelon. The Rear Guard would consist of an Infantry Platoon and a Cavalry Patrol. An Unmanned Aerial Vehicle would screen the front and flanks. The Van Guard would clear the route conducting 'on occurrence' or deliberate search, depending on the route classification, with the Main and Rear Guards holding key points. The Main Body would then transit from secured location to secured location until the destination was reached. On reaching the area of operations the Combat Team would attempt a deception by giving the impression that it was resting overnight and moving on the next day. This was achievable as the Task Force and other Coalition Forces would often transit through so if the Combat Team took a posture that it was moving the next morning the deception had a good chance of succeeding and it was found that it often did surprise the locals during the follow-on phase.[116]

The Secure Population line of operation approximately aligns with Adaptive Campaigning's Population Protection line of operation as it included actions to provide immediate security to the threatened population through security actions, as well as weapon and hazardous material control actions. These actions seek to minimize fear and harm through the execution of immediate protective actions contributing to public safety and protection of property and to identify, locate, secure and/or dispose of weapons and environmental hazards deemed to pose a threat to the population or the Land Force.[117]

The infantry element of the Combat Team would then approach the "Green Zone" in darkness in the early hours of the morning and conduct deliberate Cordon and Visit operations.

---

[116] Michael Bassingthwaighte, "Taking Tactics from the Taliban: Tactical Principles for Commanders," *Australian Army Journal* VI, no. 1 (Autumn, 2009), 30.

[117] Department of Defence, *Army's Future Land Operating Concept*, 48.

This differed slightly from the established Cordon and Search practice, due to the stigma and higher command focus on the term search. As a result the Combat Team did not always search as there was not always the level of information to support a search approval from the higher levels of the International Security Assistance Force command. Instead, the Combat Team would put in a Cordon and Visit operation in compounds of interest in the hope of flushing out persons of interest, conducting a search with consent, or finding evidence to support a search without consent. These activities, if not achieving a kinetic effect of taking detainees or locating caches, had the non-kinetic effect of inserting uncertainty in the mind of the enemy by the perception that we could be anywhere at any time. The adaptation of the tactic of Cordon and Search to Cordon and Visit is an example of the tactical application of the Adaption Cycle. There was not always enough information produced by observation and orientation to support an International Security Assistance Force decision to act, i.e. execute a Cordon and Search operation. Under these circumstances the system needed to be stimulated through action (the visit), and sensors needed to be in place to monitor the results of the stimulation (the cordon). The results were sensed by over watch and/or aerial sensors, such as an Unmanned Aerial Vehicle. On the basis of this information a decision could be made to act either by continuing with the visits or transitioning the operation into a Cordon and Search.[118]

The Engage Population Groups line of operation approximately aligns with Adaptive Campaigning's Information Actions line of operation, as its purpose was to inform and shape the perceptions, attitudes, behavior and understanding of targeted population groups in order to reinforce actions within the other lines of operation.[119]

The Task Force's patrol program not only performed the usual task of denying the enemy the ability to obstruct construction, but was also aimed at effective engagement with the locals to

---

[118] Bassingthwaighte, *Taking Tactics from the Taliban: Tactical Principles for Commanders*, 31.

[119] Department of Defence, *Army's Future Land Operating Concept*, 50.

support the information operations plan. Critical support was also provided by an engagement team comprising a mix of specialists from information operations, intelligence and the Provincial Reconstruction Team. The engagement team was equipped to conduct key leadership engagement and ongoing human terrain and needs-based analysis in order to provide information and also as a basis for future reconstruction operations. [120]

The Protected Reconstruction line of operation aligns with Adaptive Campaigning's Population Protection line of operation on the one hand through by providing infrastructure that allowed the Afghan National Army and the Afghan National Police to conduct population control actions and policing actions to establish and maintain control over a population's residence, movement and identity and provide policing capabilities appropriate to the environment.[121] This line of operation also furthered Indigenous Capacity by providing the police and the military barracks and depots to train in and operate from and providing a visible presence of the Government within the community.[122]

The construction the Nyazi, Sangar and Kala Kala Check Points during Operation Spin Ghar is one example of providing infrastructure that allowed the Afghan National Police to conduct population control actions and policing actions to establish and maintain control over a population's residence, movement and identity. The positive outcomes of establishing a permanent presence through providing this infrastructure is demonstrated by an operation conducted by Reconstruction Task Force 4. They built a patrol base in a key location at Baluchi that directly impacted the lines of communication between three insurgent strongholds. This, coupled with the protected reconstruction operations conducted by the previous Task Force, had an immediate impact on Taliban leadership and operations, and caused concern over which

---

[120] Bassingthwaighte, *Taking Tactics from the Taliban: Tactical Principles for Commanders*, 33.

[121] Department of Defence, *Army's Future Land Operating Concept*, 48.

[122] Ibid., 55.

location would be targeted next. The insurgents were clearly frustrated by this direct challenge on areas they considered their heartland and this operation contributed to the Taliban abandoning the summer offensive.[123]

The Mentored Reconstruction line of operation approximately aligns with Adaptive Campaigning's Population Support and Indigenous Capacity lines of operation. In accordance with population support it aimed to restore or reconstruct indigenous essential services and associated infrastructure necessary for the sustainment of society which had been damaged, destroyed or denied to the dependent population.[124] The mentoring aspect was particularly important as operational uncertainty severely restricted Other Government Agencies, Non Government Organizations and the indigenous Government's ability to plan and commence implementing long term infrastructure development projects on the ground. Consequently, as was the case in Afghanistan, Adaptive Campaigning emphasizes that the Land Force must be prepared to work with key stakeholders in the planning and initial implementation of long term infrastructure development plans.[125]

One of the main enduring operations in this line of operation was Operation Takht. Operation Takht's mission was to project manage permanent infrastructure construction that directly contributed to the reconstruction and rehabilitation of Afghan society, aligned with Government of Afghanistan agency plans, needs and priorities in order to progress indigenous capacity towards self reliance.[126] The operation was ongoing over four rotations and mentored the rebuilding of the city hospital, the primary and high schools, improved the city's defenses, completed a causeway to improve local access, enlarged the Afghan Health Development Service

---

[123] Stuart Yeaman, "Securing Afghanistan's Future: Reconstruction Task Force Operations in Uruzgan Province," *United Service* 60, no. 2 (June 2009), 24.

[124] Department of Defence, *Army's Future Land Operating Concept*, 53.

[125] Ibid., 55.

[126] Australian Army, *Reconstruction Task Force 3*, 64.

training site, and rebuilt the Ministry of Rural Reconstruction and Development compound.

Through the process of mentoring and advising these tasks, the Task Force developed beneficial

relationships with local government officials and contractors. This resulted in improved

construction, oversight, project management, financial accountability and technical standards.

The Task Forces introduced systems of open, transparent tendering and enforced realistic costing

of delivered works. Task Force engineers negotiated with local contractors to employ youth

trained at the Task Force's Trade Training School. By the end of Reconstruction Task Force 4's

rotation, over $20 million had been invested in Tarin Kowt, resulting in its regeneration as a

provincial city with a functioning economy, a tangible sense of confidence, and virtually no

security issues. The engineers of the Reconstruction Task Force imparted sufficient knowledge

and experience that it was able to contract local companies to build complex bridges and

buildings outside the city where previously no companies had felt safe to go. This further inspired

the local Ministries to undertake their own contracted works to build two bridges, one in Tarin

Kowt and one in Chora, without Reconstruction Task Force support, thus displaying an enduring

indigenous capacity that would support the population into the future.[127]

The Trade Training line of operation approximately aligns with Adaptive Campaigning's

Information Actions, Population Support, and Indigenous Capacity lines of operation. In

accordance with population support it aimed to impart trade skills to members of the local

population to allow them to contribute to the long term restoration and reconstruction of

indigenous essential services and associated infrastructure necessary for the sustainment of their

society.[128] Trade Training supported the Indigenous Capacity line by providing a skilled local

work force that the local ministries could draw upon for self initiated projects that would support

---

[127] Yeaman, *Securing Afghanistan's Future: Reconstruction Task Force Operations in Uruzgan Province*, 22.

[128] Department of Defence, *Army's Future Land Operating Concept*, 53.

the population through infrastructure and income that would assist in building a self-sustaining economy.[129] These positive actions supported the Information Actions lines by building confidence and support from the local population in their government and the coalition.[130]

This line of operation was primarily executed through the establishment of a trade training school in Tarin Kowt. This school trained local youth in the basic skills of carpentry, plumbing, block work, generator maintenance and other construction skills. The youths achieved a basic standard of skills, learned teaching methods, and developed a work ethic while being paid a respectable wage. To establish enduring conditions for the school to continue after the Task Force's departure the Task Force instructors were understudied by previous graduates to build their experience in teaching methods, allowing them to pass on their knowledge into the future. As detailed above in the Mentored Reconstruction line of operation, the Task Force guaranteed work for its graduates in local firms that were contracted on the mentored tasks to ensure their continued employment and positive contribution to society.[131]

Summary

Based on the Adaptive Campaigning's five lines of operation, Reconstruction Task Force 3 developed an operational approach consisting of interdependent lines of operation executed simultaneously to shape targeted population groups, progress indigenous capacity towards self-reliance, and set the conditions for the transfer of Reconstruction Task Force responsibilities to other coalition forces or the Afghan national security forces. They understood that adaptation was the way to cope with complexity and utilized the Adaption Cycle to adapt tactics such as the Cordon and Search to Cordon and Visit. This allowed them to exploit the strengths of the

---

[129] Ibid., 55.

[130] Ibid., 50.

[131] Yeaman, *Securing Afghanistan's Future: Reconstruction Task Force Operations in Uruzgan Province*, 23.

processes available to them. This further enabled them to gain enough information through observation and orientation or execute informed action to stimulate the system and gain the information required. This led to more fully informed decision making that supported more effective stimulation of the system and increased the understanding of the environment and the problem in order to form a more complete solution.

Conclusion

The purpose of this study was to evaluate the relevance of Adaptive Campaigning to recent Australian Army operations in Iraq and Afghanistan. The investigation of Australia's way of war set the cultural and strategic context for the study and highlighted the tension between preparing a force for the most likely task of "overseas warfare, with the use of volunteer forces in coalition operations," and the most dangerous task of "deter and defeat armed attacks on Australia." It reviewed the evolution shaped by terrorism events such as September 11 and the Bali Bombing, as well as the response of the United States through the declaration of the Global War on Terror. The resulting theoretical dialogue in Australia that centered on *Complex Warfighting 2004*, *Adaptive Campaigning 2007* and *Adaptive Campaigning 2009* saw the introduction of a novel component that draws on complex systems science, particularly in the theory of complex adaptive systems. This novel component was added to the usual doctrinal fundamentals of national strategy, whole of government perspectives, military history and operational experience.

Next, a review of the professional dialog about Adaptive Campaigning's development and its impact on the Australian Army's structure and doctrine was performed. This review reinforced that adaption is a key factor in coping with complexity. The theory suggested that a combination of theory, practice and reflection can improve learning within a complex situation, thereby enhancing individual adaptability. The Adaption Cycle is a key component of this and through its view of conflict as a complex adaptive system one can describe a cycle of interaction

to change the system while learning from interaction with the system. As complex problems have no central point of control the execution of simultaneous lines of operation, not sequential (linear) action, is the key to affecting lasting desired change within a system. Linear metaphors such center of gravity are still useful, however, care needs to be taken in their utilization to ensure that they do not become the sole foundation of a planning process or operational framework. When dealing with complex adaptive systems all tools and options should be left on the table. Processes may complement each other and by utilizing both it may allow one to enhance processes to their advantage.

The study then conducted two case studies, Overwatch Battle Group (West) 1, Iraq, 2006, and Reconstruction Task Force 3, Afghanistan, 2007-2008, investigating how these forces designed operations in the context of Adaptive Campaigning. In particular, the operational employment of the five lines of operation, the Adaption Cycle, and translation of a campaign plan into tactical action was analyzed. Both forces adapted traditional planning process to cope with the complexity they encountered in ways that were consistent with Adaptive Campaigning. The Overwatch Battle Group (West) adapted the mission analysis stage of the Military Appreciation Process into the operational review and defined the state of the society that they intended to restore or maintain, rather than specifying a fixed end state. This defining of conditions was also done by the Reconstruction Task Force when they defined their "end state" as the shaping of targeted population groups, progressing indigenous capacity towards self-reliance, and setting the conditions for the transfer of Reconstruction Task Force responsibilities to other coalition forces or the Afghan national security forces. The conduct of both these forces reinforces the assertion by Adaptive Campaigning that there may be no end state to an operation but rather an enduring set of conditions. Further supporting Adaptive Campaigning as a framework for campaign design was the Overwatch Battle Group's utilization of their operational framework of interdependent and mutually reinforcing lines of operation to provide the skeleton from which contingency plans, ongoing concurrent operations, and short term limited objective operations were anchored. The

Reconstruction Task Force also based their operational approach on the Adaptive Campaigning's five lines of operation in developing their interdependent lines of operation that they executed simultaneously to shape targeted population groups, progress indigenous capacity towards self-reliance, and set the conditions for the transfer of Reconstruction Task Force responsibilities to other coalition forces or the Afghan national security forces. Even though the exact labels of the Adaptive Campaigning's lines of operation were not used in either campaign plan, a clear correlation between both campaign plans and Adaptive Campaigning was shown.

The Reconstruction Task Force understood that adaptation is the way to cope with complexity and utilized the Adaption Cycle to adapt tactics such as the Cordon and Search to Cordon and Visit. This allowed them to exploit the strengths of the processes available to them. This further enabled them to gain enough information through observation and orientation or execute informed action to stimulate the system and gain the information required. This led to more fully informed decision making that supported more effective stimulation of the system and increased the understanding of the environment and the problem in order to form a more complete solution.

The aim of this study was to confirm or deny that Adaptive Campaigning provided a sound conceptual framework for the conduct of campaign planning. The case studies have shown that the conduct of these two operations supports the argument that using Adaptive Campaigning as a framework in context with a particular situation and mission results in a workable campaign plan that can guide tactical action that supports the strategic objective. This study focused on the application of only a portion of *Adaptive Campaigning 2009*, the five lines of operation and the Adaption Cycle, in two operations. There is room for further study in both the application of these two aspects in other operations and the application of other concepts contained within *Adaptive Campaigning 2009.* There does remain a challenge to traditional planning, however, and the existing Joint and Army doctrine has a linear focus on the direct force-on-force encounters. An examination of planning doctrine needs to be conducted to ensure that it can accommodate the

more complex and diffuse problems likely to be encountered during future operations. Care needs to be taken in this examination to ensure that singular concepts, such as center of gravity analysis, do not become the sole foundation of planning processes, otherwise it can lead to can lead to flawed thinking about complex problems.

Bibliography

Rethinking the Nature of War. Edited by Isabelle Duyvesteyn andJan Angstrom. New York, NY: Frank Cass, 2005.

Australian Army. *Reconstruction Task Force 3*. Brisbane, QLD: Sunset Digital, 2008.

Bar-Yam, Yaneer. *Making Things Work: Solving Complex Problems in a Complex World*. Cambridge, MA: NECSI Knowledge Press, 2004.

Bassingthwaighte, Michael. "Taking Tactics from the Taliban: Tactical Principles for Commanders." *Australian Army Journal* VI, no. 1 (Autumn, 2009): 25.

Beyerchen, Alan D. "Clausewitz, Nonlinearity and the Unpredictability of War." *International Security* 17, no. 3 (1992).

Birmingham, John. *A Time of War: Australia as a Military Power*. Quarterly Essay. Issue 20 ed. Collingwood VIC: Black Inc, 2005.

Bundle, Armin, Jurgen Kropp, and Hans-Joechim Schellnhuber. *The Science of Disasters: Climate Disruptions, Heart Attacks and Market Crashes*. Vol. 2. New York, NY: Spinger, 2002.

Cosgrove, Peter. *My Story*. Sydney, NSW: Harper Collins Publishers, 2006.

Department of Defence, Australia. "History of Australia's Military Commitment in Afghanistan." Australian Defence Force. http://www.defence.gov.au/defencenews/articles/1017/files/4_History%20of%20Australia's%20military%20commitment%20in%20Afghanistan%20Fact%20Sheet%204.pdf (accessed February 21, 2011).

———. *Army's Future Land Operating Concept*. Canberra, ACT: Australian Army Headquarters, 2009.

———. *Defending Australia in the Asia Pacific Century: Force 2030*. Canberra, ACT: Commonwealth of Australia, 2009.

———. *Land Warfare Doctrine 5-1-4, the Military Appreciation Process (Developing Doctrine)*. Puckapunyal VIC: Australian Army, 2009.

———. *Land Warfare Doctrine 1: The Fundamentals of Land Warfare*. Canberra, ACT: Australian Army, 2008.

———. *Adaptive Campaigning: The Land Force Response to Complex Warfighting*. Canberra, ACT: Australian Army Headquarters, 2007.

———. *Australia's National Security: A Defence Update 2007*. Canberra, ACT: Commonwealth of Australia, 2007.

———. *Australia's National Security: A Defence Update 2005*. Canberra, ACT: Commonwealth of Australia, 2005.

———. *Complex Warfighting*. Canberra, ACT: Australian Army Headquarters, 2004.

———. *Australia's National Security: A Defence Update 2003*. Canberra, ACT: Commonwealth of Australia, 2003.

———. *The Australian Approach to Warfare*. Canberra, ACT: Australian Defence Force, 2002, www.defence.gov.au/publications/taatw.pdf (accessed November 10, 2010).

———. *Land Warfare Doctrine 5-1-4, the Military Appreciation Process*. Puckapunyal VIC: Australian Army, 2001.

———. *Defence 2000: Our Future Defence Force*. Canberra, ACT: Commonwealth of Australia, 2000.

Dockery, Charles. "Adaptive Campaigning: On Marine's Perspective." *Australian Army Journal* V, no. 3 (2008): 107.

Evans, Michael. *The Tyranny of Dissonance: Australia's Strategic Culture and Way of War 1901–2005*. Vol. Study Paper No. 306. Duntroon ACT: Land Warfare Studies Centre, 2005.

Ferguson, R. James. *Australian Defence Policies: Alliance Or Independence?*. The International Relations and International Cultures Portal. Queensland, Australia: Bond University, 2000, http://www.international-relations.com/wbip/wbnlec5.htm (accessed November 10, 2010).

Gurney, David H. and Jeffrey D. Smotherman Dr. "An Interview with George W. Casey, Jr." *Joint Forces Quarterly*, no. 52 (2009): 15.

Heuser, Beatrice. *The Evolution of Strategy: Thinking War from Antiquity to the Present*. Cambridge UK: Cambridge University Press, 2010.

Joint Chiefs of Staff. *Joint Publication 1-02: Department of Defense Dictionary of Military and Associated Terms*. Washington, D.C.: Department of Defence, United States of America, 2010.

Kauffman, Stuart A. *At Home in the Universe: The Search for Laws of Self-Organization and Complexity*. Oxford, NY: Oxford University Press, 1995.

Legislative Budget Board. *Texas Fact Book 2010*. Austin TX: Eighty-First Texas Legislature, 2010, www.lbb.state.tx.us/Fact_Book/Texas_FactBook_2010.pdf (accessed October 19, 2010).

Lessard, Laurence. "Operational Leadership Experiences in the Global War on Terror: Interview with MAJ Chris Smith." Fort Leavenworth KS, Combat Studies Institute, January 11, 2008.

Mattis, James N. "Launching NATO's New Strategic Concept." Brussels, North Atlantic Treaty Organisation, July 7, 2009, 2009, http://www.nato.int/cps/en/natolive/opinions_56392.htm (accessed November 16, 2010).

Minai, Ali A. and Yaneer Bar-Yam. *Unifying Themes in Complex Systems: Proceedings from the Third International Conference on Complex Systems*. Boston MA ed. New York NY: Springer, 2006.

Rihani, Samir. *Complex Systems Theory and Development Practice: Understanding Non-Linear Realities*. London: Zed Books, 2002.

Ryan, Alexander,R. "The Foundation for an Adaptive Approach: Insights from the Science of Complex Systems." *Australian Army Journal* VI, no. 3 (2009): 69.

Smith, Christopher. "Solving Twenty-First Century Problems with Cold War Metaphors: Reconciling the Army's Future Land Operating Concept with Doctrine." *Australian Army Journal* VI, no. 3 (2009): 91.

———. "Overwatch Battlegroup (West) Lessons in Planning and Executing Counterinsurgency Campaigns." Essay, Townsville, QLD.

Strange, Joe. *Centers of Gravity and Critical Vulnerabilities: Building on the Clauswitzian Foundation so that we can all Speak the Same Language*. Perspectives on Warfighting, Number Four. Quantico VA: Marine Corps University, 1996.

The Central Intelligence Agency. "The World Factbook: Australia." The Central Intelligence Agency. https://www.cia.gov/library/publications/the-world-factbook/geos/as.html (accessed October 19, 2010).

Von Clausewitz, Carl. *On War*. Edited by Michael Howard and Peter Paret. Princeton, NJ: Princeton University Press, 1976.

Yeaman, Stuart. "Securing Afghanistan's Future: Reconstruction Task Force Operations in Uruzgan Province." *United Service* 60, no. 2 (June 2009): 21.