

**Land Warfare Studies Centre**

**Working Paper No. 133**

**ORGANISING COMPLEXITY:**

**MODES OF BEHAVIOUR IN A  
NETWORKED BATTLESPACE**

by

**Caroline Croser**

November 2007



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### **National Library of Australia Cataloguing-In-Publication Entry**

Croser, Caroline, 1981- .

Organising complexity : modes of behaviour in a networked battlespace.

ISBN 9780642296719 (pbk.).

1. Deployment (Strategy). 2. Asymmetric warfare. 3. Iraq War, 2003- . 4. United States - Defenses. 5. United States - Military policy. I. Land Warfare Studies Centre (Australia). II. Title. (Series : Working paper (Land Warfare Studies Centre (Australia)) ; no. 133).

355.02

### **Land Warfare Studies Centre Working Papers**

**ISSN 1441-0389**

Working papers produced by the Land Warfare Studies Centre are vehicles for initiating, encouraging or nurturing professional discussion and debate concerning the application of land warfare concepts and capabilities to the security of Australia and its interests. Working papers, by their nature, are not intended to be definitive.

**Series Editor:** *Scott Hopkins*

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## **About the Author**

Caroline Croser holds a PhD from Lancaster University in Defence and Security Studies. Her thesis was entitled *Operationalising Uncertainty: The US military and the new spatiality of new security* and drew on fieldwork with 1st Cavalry Division, 3rd Infantry Division, the Marine Corps Concept Development Centre and the Office of Force Transformation. She presently works for the Department of Defence in Strategic Policy Division.

## ABSTRACT

This paper examines two powerful motivators in US defence policy: the pursuit of network-centric warfare and the imperatives of counterinsurgency. It explores the often noted points of incompatibility between the two, before arguing that a more productive way of understanding their interaction is to examine the ways in which the two are being hybridised in practice in the testing ground of Operation *Iraqi Freedom*. The paper draws on fieldwork with the US Army's 1st Cavalry Division that explores their use of a particular command and control technology, Command Post of the Future, during their first rotation in Operation *Iraqi Freedom* in 2004.<sup>1</sup>

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<sup>1</sup> This paper was written in 2005–06, and does not reflect the current situation in Operation *Iraqi Freedom*.



# Organising complexity:

## Modes of behaviour in a networked battlespace

### INTRODUCTION

Terrorists ... do not fear 'network-centric warfare' because they have already mastered it for a tiny fraction of one cent on the dollar, achieving greater relative effects with the Internet, cell phones, and cheap airline tickets than all of our military technologies have delivered. Our prime weapon in our struggles with terrorists, insurgents, and warriors of every patchwork sort remains the soldier or Marine; yet confronted with reality's bloody evidence, we simply pretend that other, future, hypothetical wars will justify systems we adore—purchased at the expense of the assets we need.<sup>2</sup>

### From Baghdad to the Office of Force Transformation

One of the most fascinating features of contemporary US strategic discourse is the near-complete disconnect between

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<sup>2</sup> Ralph Peters, 'The counterrevolution in military affairs', *The Weekly Standard* 11, no. 20, 2006, <<http://www.weeklystandard.com/Content/Public/Articles/000/000/006/649qrsob.asp>>, accessed on 29 August 2007.

two defining features of the US military experience over the past decade. On the one hand, there is the force transformation agenda—actively promoted by former Defense Secretary Rumsfeld, given institutional force by the Office of Force Transformation, and finding conceptual expression in the form of network-centric warfare (NCW)—and a broader discussion of the putative revolution in military affairs. On the other hand, there is the experience of extended counterinsurgency operations in Iraq, operations that are well into their fifth year, and that have seen the consistent deployment of at least three US Army divisions at each troop rotation. Both force transformation and the experience of Operation *Iraqi Freedom* (OIF) have provided military thinkers with extensive food for thought, as well as considerable strategic direction. Yet work connecting the two, exploring their harmonies and dissonances, and specifically work that asks questions such as ‘Is force transformation, or network-centric warfare, useful in the context of Iraq?’, has been thin on the ground.<sup>3</sup>

There are several explanations that immediately spring to mind when confronting this paradox. The first is that NCW,

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<sup>3</sup> See, however, Frederick W Kagan, ‘War and aftermath’, *Policy Review*, no. 120, 2003, p. 3; Michael Evans, Russell Parkin and Alan Ryan (eds), *Future armies, future challenges: land warfare in the information age*, Allen & Unwin, Crows Nest, NSW, 2004; Peters, ‘The counterrevolution in military affairs’; John P White (ed.) *Transformation for what? Proceedings of the Third Annual Conference on Security Transformation*, November 18–19, 2004, Washington DC, Strategic Studies Institute, 2005.

and force transformation in general—while enthusiastically adopted within the Pentagon and, to a certain extent, at the higher echelons of the Joint Command structure—has not necessarily been incorporated within the Army mindset at an operational, and particularly, at a tactical level.<sup>4</sup> While the early stages of OIF (the ‘invasion phase’) were prosecuted using (admittedly cherry-picked) concepts from NCW, the occupation and counterinsurgency phases have been conducted using Army doctrine on urban warfare and counterinsurgency—doctrine that had not, until the middle of 2003, been updated since 1979, and therefore reflected few of the concerns of the force transformation agenda.<sup>5</sup> Interviews by the author in one of the Army’s foremost ‘digital’ divisions, the 1st Cavalry Division, echo this suggestion. Many

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<sup>4</sup> This is, obviously, a quite dramatic over-simplification of the situation. Force transformation as an agenda has come to encompass a number of previously existing organisational change agendas within the US Army, particularly, that of Force XXI, a project that began in 1994, well before the advent of President George W Bush and Defense Secretary Rumsfeld. Nonetheless, while it is true to say that the Force XXI has been adapted to the transformation agenda (and has since in fact mutated into a supposedly entirely new form, that of ‘modular forces’), the penetration of conceptual innovations such as NCW has been less complete in the Army than in, say, the US Air Force, which has more enthusiastically embraced the possibilities of transformational strategic approaches such as ‘shock and awe’ for changing their role in the battlespace.

<sup>5</sup> In fact, in a widely read and highly controversial article by a British officer who served in Iraq alongside US troops, Brigadier Nigel Aylwin-Foster argues that the US Army was not even operating according to its comparatively underdeveloped counterinsurgency doctrine, and was fighting the war as though it was a conventional mission focused on ‘the destruction of the insurgent’. Nigel Aylwin-Foster, ‘Changing the army for counterinsurgency operations’, *Military Review*, vol. LXXXV, no. 6, November–December 2005, pp. 2–15.

interviewees expressing scepticism about the concepts of NCW and force transformation, often declaring them to be ‘buzzwords’ empty of meaning. Indeed, there has been consistent criticism that former Secretary Rumsfeld’s transformation agenda has actually undermined operations in Iraq, particularly in terms of planning for Phase IV operations, where troop numbers available for the occupation were consistently scaled back by sceptical Pentagon officials. They sought a fleeter and lighter military footprint more in line with the transformational image of the future and the apparent success of this approach in Afghanistan.<sup>6</sup>

The second, and related, explanation for the failure of these two military experiences to come together is that the conduct of counterinsurgencies (and low-intensity conflicts in general) has not usually been presented by NCW luminaries as reflecting the kinds of war in which the US military would be involved. For example, one of the only texts on the principles of NCW to discuss specific scenarios that go beyond fighting a conventional, state-on-state war, *Networks and netwars* by John Arquilla and David Ronfeldt, mentions insurgency only in the context of the largely peaceful Zapatista movement operating in Mexico.<sup>7</sup> The ‘middle range’ of

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<sup>6</sup> For a particularly acute summary of these concerns, see Michael Gordon and Bernard Trainor, *Cobra II: the inside story of the invasion and occupation of Iraq*, Atlantic Books, London, 2006, Chapters 1–8.

<sup>7</sup> John Arquilla and David Ronfeldt, ‘Emergence and influence of the Zapatista social netwar’, in John Arquilla and David Ronfeldt (eds),

counterinsurgency and low-intensity urban combat is simply not addressed by the majority of the NCW literature. As Paul Davis notes, in his book on effects-based operations:

As a final thought, I offer the suggestion that a portion of the work on transformation and new concepts of operations should focus on how the United States and its allies can accomplish missions when RDO [rapid decisive operations] is simply not possible. How would the United States refight the Vietnam War? How would the United States suppress a guerrilla movement such as the one the British dealt with in Malaya? How would the United States operate in an extended stability operation in urban sprawl? One might hope that modern technology and networked operational concepts would be useful in these situations as well, but they tend to get less attention than is directed to major theater war (MTW) scenarios or even high-end small-scale contingencies (SSCs).<sup>8</sup>

Further, and as noted by Christopher Toomey, up until 2003 at least, this failure to conceive of NCW and force transformation out of the context of large-scale conventional warfare extended even to the training exercises of the Army's

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*Networks and netwars: the future of terror, crime, and militancy*, RAND, Santa Monica, CA, 2001, pp. 171–200.

<sup>8</sup> Paul K Davis, *Effects-based operations: a grand challenge for the analytical community*, RAND, Santa Monica, CA, 2001, pp. 16–17. In an interesting footnote to this presciently posed quandary, Davis notes that in private communication with the former Assistant Secretary of Defense, Edward Warner (of the Clinton administration), Warner 'concluded that virtually all studies—regardless of how they started—tend to slip to a focus on war fighting, at the expense of learning more about how to deal with lesser contingencies.'

most advanced digitised divisions.<sup>9</sup> ‘In simple terms’, asks PH Liotta, ‘are we planning for the war we want to fight rather than for the wars we will have to fight?’<sup>10</sup>

Nonetheless, despite the stubborn refusal of these agendas to come together in contemporary security discourse, this paper will argue that there is an urgent need to understand the impact of NCW, and force transformation more generally, on the contemporary battlespace as faced by US Army troops in Iraq. This argument stems primarily from the contention that NCW (and force transformation) should be conceptualised as an ongoing *organisational process*, rather than as an end state of either doctrinal or organisational change. As the Office of Force Transformation notes:

And while we might point to a beginning of transformation, we cannot foresee the end ... Both [President Bush] and Secretary Rumsfeld view transformation as a continuing process, one that not only anticipates the future, but also seeks to create it.<sup>11</sup>

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<sup>9</sup> Christopher J Toomey, ‘Army digitization: making it ready for prime time’, *Parameters*, vol. 33, no. 4, 2003, p. 40. Note, however, an Office of Force Transformation exercise at the National Training Center examining the effectiveness of the Stryker Brigade Combat Team (SBCT; the poster-child of the Army’s transformation efforts), which required the SBCT to conduct full-spectrum operations in an urban environment. Office of Force Transformation (OFT), *Network-centric operations case study: the Stryker Brigade Combat Team*, Office of Secretary of Defense, Washington DC, 2005, Chapter 5.

<sup>10</sup> PH Liotta, ‘Chaos as strategy,’ *Parameters*, vol. 32, no. 2, 2002, p. 47.

<sup>11</sup> Office of Force Transformation (OFT), *Elements of defense transformation*, Office of Secretary of Defense, Washington DC, 2004, p. 1.

Once NCW and transformation are conceived of as a *process* it becomes possible to think of the ways in which the (technological, organisational, and behavioural) changes that have already occurred in the US Army under their auspices may have resulted in different ‘modes of behaviour’ in the Iraqi battlespace. These modes of behaviour need not reflect either traditional conceptions of Army doctrine or the predictions of NCW and force transformation advocates, but may reflect instead hybridised but still effective ways of operating.

That is, rather than deploying an either/or logic of examining a ‘non-networked’ and a ‘networked’ military, this paper examines the way in which new modes of behaviour are made possible by the specific configuration of partially networked and transformed forces operating in the complex environment of counterinsurgency and urban combat in Iraq.

## **NETWORK-CENTRIC WARFARE AND FORCE TRANSFORMATION: DIGITISING THE US ARMY**

This section will briefly outline the major tenets of NCW and force transformation, and the main ways in which the US Army has responded to these agendas. These insights will be used in the subsequent section to illustrate the reasons why

defence transformation and counterinsurgency are often considered to be incompatible with one another, if they are thought of together at all.

### **Network-centric warfare and force transformation: not just technology, right?**

Perhaps one of the most common preconceptions about NCW and force transformation is their reliance on information and communications technologies (ICTs). Critics of NCW see it as a grab bag of ‘shiny’ weapons (such as laser-guided precision munitions), sophisticated stand-off intelligence, surveillance and reconnaissance (ISR) capabilities (such as uninhabited aerial vehicles), and complicated and potentially centralising command and control technologies.<sup>12</sup> Even in its ‘best’ and most sophisticated expression, NCW and force transformation attempt to make the information-technology-driven changes apparent in the economic and social spheres of Western societies central to the changing of the US military; this is not necessarily an unfair criticism. Without ICTs, NCW would not exist. Yet (and, again, only the best of) NCW thinking on this issue does not think technology is nearly sufficient to bring about truly ‘transformational’ change. NCW is fundamentally about understanding the world differently (as a ‘network’ or ‘system of systems’),

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<sup>12</sup> For an even-handed but sceptical account of the technophilia of NCW and the RMA, see Colin S Gray, *Strategy for chaos: revolutions in military affairs and the evidence of history*, Frank Cass, London, 2002.

and/or understanding a world made different by networking technologies. In the words of one of the pioneers of NCW doctrine, the late Vice Admiral Arthur Cebrowski:

Warfare is about human behaviour in a context of organized violence directed toward political ends. So, network-centric warfare (NCW) is about human behaviour within a networked environment.<sup>13</sup>

Definitions of NCW vary, with common emphases including the ability of appropriately networked forces to:

- gain and maintain information supremacy
- increase the speed of command, and get inside the enemy's C2 'loop'
- increase shared situational awareness, enabling the effective maintenance of the physical dispersion of forces through the battlespace, and allowing for the development of self-synchronising behaviour during battle
- develop high rates of change
- enhance jointness of operations
- compress previously separate levels of warfare (the strategic, tactical, and operational), such that actions in one may directly impact on another.<sup>14</sup>

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<sup>13</sup> Office of Force Transformation (OFT), *The implementation of network-centric warfare*, Office of Secretary of Defense, Washington DC, 2005, p. i.

<sup>14</sup> See Office of Force Transformation (OFT), *Elements of defense transformation*; Office of Force Transformation (OFT), *The Implementation of NCW*, pp. 7–10.

Network-centric warfare is often summarised in a shorthand of compressing and ‘complexifying’ the sensor-to-shooter chain—making it quicker for information to pass from the sensor to the shooter, while having the option to pass targeting information to multiple shooters, not simply to a dedicated platform or unit—in a way that allows a nonlinear interaction with battlespace.<sup>15</sup> While this may be an accurate interpretation of one of the effects of NCW, it is important to remember that the broadest conceptions of NCW see it as a more general ambition. As it has come to be expressed in the idea of force transformation, NCW is nothing less than an attempt to shift the entire footing of the US military: all facets of operation—logistical, doctrinal, strategic, training, technological, and organisational—are to be altered to reflect their involvement in a networked environment. In the words of Cebrowski and Gartska in their seminal article on NCW:

Network-centric warfare and all of its associated revolutions in military affairs grow out of and draw their power from the fundamental changes in American society. These changes have been dominated by the co-evolution of economics, information technology, and business processes and organizations, and they are linked by three themes:

- The shift in focus from the platform to the network

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<sup>15</sup> See W Perry, ‘Network-centric warfare: measuring the effectiveness of networked forces’, paper presented at RAND New Securities Forum, Washington DC, 2004.

- The shift from viewing actors as independent to viewing them as part of a continuously adapting ecosystem
- The importance of making strategic choices to adapt or even survive in such changing ecosystems.<sup>16</sup>

Transformation and NCW are about making the world view espoused by Cebrowski and Gartska central to the operation of the military. In this world view, the military operates in a broader ‘system of systems’ (military, social, political, economic, to name but a few) and must acknowledge the way in which such systems affect its capacities, while at the same time exploiting the possibilities posed by this situation. Thus, logistics become ‘just in time’, and ultimately, ‘sense and respond’, deliberately following the lead of market pioneers who have taken advantage of the networking properties of ICTs, including companies like Walmart and Amazon.com.<sup>17</sup> An emphasis falls on enhancing the military’s capacity to work in interagency contexts (including non-military government agencies, international organisations and NGOs) rather than a ‘simple’ need for jointness.<sup>18</sup> Fighting, at a tactical as well as

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<sup>16</sup> Arthur K Cebrowski and John J Gartska, ‘Network-centric warfare: its origin and future’, *Proceedings of the US Naval Institute*, January 1998, <<http://www.usni.org/Proceedings/Articles98/PROCebrowski.htm>>.

<sup>17</sup> See Office of Force Transformation (OFT), *Operational sense and respond logistics: coevolution of an adaptive enterprise capability, concept document (long version)*, Office of Secretary of Defense, Washington, DC, 2004.

<sup>18</sup> For some interesting suggestions about making interagency operations organic to the Marine Expeditionary Force, see David E Cooper, ‘An organizational model for Marines fighting an insurgency’, *Marine Corps Gazette*, vol. 89, no. 6, 2005, pp. 48–51.

an operational level, makes use of networked capabilities in ways such as synchronising geographically remote, but electronically 'visible' forces.<sup>19</sup> Transformation and NCW, then, are about more than adding networking technologies to the US military: they are about a self-conscious attempt to transform the military to respond to its role in a broader environment made up of networks and systems. According to the Office of Force Transformation, the emphasis becomes 'transforming how we do business', 'transforming how we work with others' and 'transforming how we fight'.<sup>20</sup>

### **The Army's response to network-centric warfare**

Organisationally, and as noted above, the US Army has responded to the drive for transformation by rolling it into its own force modernisation agenda, Force XXI. Specifically, from the mid-1990s, Force XXI has involved a timetable for the digitisation of Army divisions, along with an agenda for their increased deployability. This involves steps such as the substantial upgrade of digital command, control, communications, computers, intelligence, surveillance and reconnaissance capabilities, and a reduction of the number of

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<sup>19</sup> For a description of the ways in which Blue Force Tracker/Force XXI Battle Command, Brigade and Below (BFT/FBCB2) were used by British and US troops to achieve this result in the initial invasion stage of OIF/Operation *Telic*, see Office of Force Transformation (OFT), *A network-centric operation case study: US/UK coalition combat operations during Operation Iraqi Freedom*, Office of Secretary of Defense, Washington DC, 2005.

<sup>20</sup> Office of Force Transformation (OFT), *Elements of defense transformation*, p. 3.

tanks and mechanised vehicles while increasing the assigned area of operations. While Force XXI is still in progress, with only two fully digitised divisions (1st Cavalry Division and 4th Infantry Division, both based at Fort Hood, Texas), the Army has further refined its transformation agenda, in the form of the 'modular force' agenda. In a modular force structure, brigades will be replaced with brigade combat teams (BCTs), modelled on three formats: heavy brigade, infantry brigade, and the Stryker Brigade (or SBCT), focused around the Stryker vehicle platform.<sup>21</sup>

Brigade Combat Teams will no longer be firmly attached to a divisional structure, and some essential auxiliary functions, particularly liaison, communications, and logistics capabilities, will be placed within their structure to facilitate this. Enhanced ISR capabilities in the form of a dedicated reconnaissance and surveillance battalion will also act as a force multiplier for these slightly softer formations. These capabilities ostensibly increase BCTs self-sufficiency and thereby enhance their rapid deployability.<sup>22</sup> Toomey provides a good description of the general form of modular BCTs when he describes the Stryker Brigade Combat Team:

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<sup>21</sup> There are five support brigade formations: aviation, fires, sustain, battlefield surveillance and a 'maneuver enhancement brigade'. Francis J Harvey and Peter J Schoomaker, *Army posture statement 2005*, Office of the Chief of Staff, US Army, Executive Office of the Headquarters Staff Group, Washington DC, 2005, p. 8.

<sup>22</sup> Harvey and Schoomaker, *Army posture statement 2005*, p. 8. See also Department of the Army, *United States Army 2003 transformation roadmap*, Department of Defense, Washington DC, 2003, Chapter 8.

The Stryker Brigade Combat Team (SBCT) is a new organization, optimized for complex and urban terrain and the ability to leverage complex [C4ISR] systems. The SBCT has many of the characteristics of the modernizing mechanized force: increased battlespace, reduced combat platform density, reduced indirect fire assets, reduced organic combat service support, and increasingly soft communications assets compared to comparable formations. *Again, the thought that network-centric enablers are sufficient force-multipliers drives much of the force structure.*<sup>23</sup>

BCTs will be equipped with the high-tech Future Combat Systems (FCS), some of which are being spiralled into use at the moment. Further, through the Reset program, units in the Army are gradually being trained in their new formations.

Nonetheless, all that has been described here is part of the *process* of transformation to which this paper refers; a process, it should be remembered, that is substantially incomplete and subject to constant revision under the funding, deployment, and personnel pressures of the Long War.

## **NETWORK-CENTRIC WARFARE AND COUNTERINSURGENCY: AN UNNECESSARY AND EXPENSIVE DISTRACTION?**

To effect regime change, US forces must be positively in control of the enemy's territory and population as rapidly and continuously as possible. That control

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<sup>23</sup> Toomey, 'Army digitization', (emphasis added).

cannot be achieved by machines, still less by bombs. Only human beings interacting with other human beings can achieve it. The only hope for future success in the extension of politics that is war is to restore the human element to the transformation equation.<sup>24</sup>

As noted above, when NCW and counterinsurgency operations in Iraq are thought of together (which is rarely), NCW usually comes off second-best. This section will explore the ways in which NCW has been considered to be a counter-productive influence on the US Army in Iraq. The purpose is not to advocate ‘for’ NCW in the face of these well-reasoned criticisms; nor will this paper fall back on the well-worn excuse of theorists that, if a theory is not useful, then it is a failure of execution and not a failure of theory. In fact, this paper will think of NCW not as a ‘theory’ at all, but rather as a practice—an institutional, individual, technological, environmental practice (and more besides). In so doing, it will approach the criticisms levelled at NCW by counterinsurgency (COIN) thinkers side-on, using the criticisms to think about what exactly it is that the Army is *doing* in Iraq, and how, perhaps, its mode of operating is enabled precisely because of the hybrid conditions of a (partially) networked force operating both outside of the more rigid conceptual constraints of NCW and beyond the possibilities of the ‘traditional’ COIN modes of operation. This will enable a concrete exploration, in the final section, of some of the ways in which units in Iraq have displayed effective modes of

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<sup>24</sup> Kagan, ‘War and aftermath’, p. 20.

behaviour that draw on this hybrid condition of operation in their fight against the insurgency.

In particular, there are three features of NCW that are considered to be inimical to success at COIN operations. The first is the emphasis on standoff capabilities, particularly as enabled by sophisticated technologies. The second is the emphasis on rapid deployability that has seen a ‘softening’ of protection on a variety of assets, from armour to C2 hardware. The third is the lack of connection between the tactical and the strategic levels of war in NCW thinking.

### **Stand-off capabilities**

COIN doctrine suggests that standoff capabilities are almost entirely counterproductive in the context of counterinsurgency. Not only is most of the combat encountered in a COIN operation close combat where stand-off capabilities can gain little purchase, but the use of stand-off capabilities runs counter to the need to become close to the population, who are the ‘prize’ to be won from the insurgents.<sup>25</sup> This is particularly true when it is considered that the two most commonly used stand-off capabilities are ISR and firepower. In the case of ISR, remote-sensing imagery has often been simply inadequate for the purpose of close urban combat,

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<sup>25</sup> See, for example, H Thomas Hayden, ‘Counterinsurgency in Iraq started with Fallujah’, *Marine Corps Gazette*, vol. 89, no. 7, 2007, pp. 28–9.

leading to the widespread use by soldiers on foot of commercial digital cameras for ISR purposes.<sup>26</sup>

Further, an emphasis on remote sensing ignores the change of targeting processes that takes place in COIN, where targets are no longer located on the basis of response to direct fire (due to the extreme mobility of insurgent attacks) but rather on the basis of police-style operations of locating and arresting insurgent cells responsible for the acts.<sup>27</sup> This kind of operation relies much less on traditional ISR (although using such ISR in statistical analyses of mortar and Improvised Explosive Device (IED) placement has its place), and much more of the human intelligence (HUMINT) garnered from a friendly population. Thus COIN doctrine proponents note that the lack of emphasis on HUMINT in NCW is extremely detrimental to the ability of forces to operate in the Iraqi environment, and point to the US Army's increasing rejection of the use of stand-off ISR for target formation in favour of what the Center for Army Lessons Learned calls 'man hunting,' and 'non-conventional' means of

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<sup>26</sup> Says one Army report of operations in Mosul, 'UAV optics is not resolute enough and satellite imagery is not reliable enough'. Center for Army Lessons Learned (CALL), *Initial impressions report: operations in Mosul, Iraq. Stryker Brigade Combat Team 1, 3rd Brigade, 2nd Infantry*, US Army Combined Arms Center, Fort Leavenworth, KA, 2004, p. 91.

<sup>27</sup> See, for example, Center for Army Lessons Learned (CALL), *Operations in Mosul, SBCT 1*, pp. 85–7; Gian Marco Chiarini, 'Urban warfare in crisis response operations', *RUSI Defence Systems*, vol. 8, no. 3, 2006, p. 90.

combating specific enemy tactics’ such as basing operations on pattern analysis.<sup>28</sup>

In the case of stand-off fires, the problem compounds, with any emphasis on directing overwhelming, or even overmatching, fire toward targets (to result in high enemy damage with low friendly casualties) breaking the classic COIN injunction of directing an absolute minimum of force with utmost discretion. Here, the use of stand-off fire can have strongly alienating impacts on the population, a concern that was particularly apparent in the case of Fallujah, where the general policy of destroying buildings deemed suspect to circumvent the difficult and dangerous task of clearing them on foot was one with highly alienating results (despite the absence of civilians in the town, and thus, to a large degree, an absence of civilian casualties).<sup>29</sup>

### **Rapid deployability**

Part of the Force XXI agenda has seen a relative ‘softening’ of the Army, with a reduction in the number of heavy assets available to divisions. As mentioned above, Toomey notes

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<sup>28</sup> Center for Army Lessons Learned (CALL), *Operations in Mosul, SBCT 1*, pp. 86, 87.

<sup>29</sup> For tactics, techniques, and procedures employed in calling in stand-off fire in Fallujah, see Carin Calvin, ‘The assaultman in an urban environment’, *Marine Corps Gazette*, vol. 89, no. 7, 2005, pp. 30–1. For the results in terms of the civilian population, see Thomas E Ricks, *Fiasco: the American military adventure in Iraq*, Allen Lane, London, 2006, pp. 404–6.

that this is to enable more rapid deployability and results from the belief that network-centric capabilities will be ‘sufficient force-multipliers’ to cover any loss of capacity.<sup>30</sup> In the words of the late Arthur Cebrowski, speaking as the head of the Office of Force Transformation, and advocating once more the ‘official’ transformation line:

I look at what these marvellous navy and air force munitions and what they do to armour. I look at what one of our own tank rounds does to everyone else’s armour in the world. The notion that steel protects just does not seem to be there because it does not protect in the absolute.<sup>31</sup>

Yet, in a unusually strident interjection into the debate about the role of armour in the future Army, (then) Major General Chiarelli, in an article that draws on his experience commanding troops in and around Baghdad, argues that:

The new fight brings to light a cautionary message to the force—be wary of eliminating or reducing the option of heavy armor; it has proven decisive and has been the critical enabler that has allowed TF Baghdad to win every fight, everyday. The enemy we fight in the streets and crypts is not connected by a vast suite of electronics packages; instead they use proven kinetic techniques, such as the rocket-propelled grenade (RPG), the command-detonated improvised explosive device (IED), the mortar,

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<sup>30</sup> See, Toomey, ‘Army digitization’.

<sup>31</sup> Cited, Kagan, ‘War and aftermath’.

and the AK47 in an asymmetric fashion, using the concrete valleys of the cityscape to their advantage.<sup>32</sup>

General Chiarelli was the Commanding General of 1st Cavalry Division, with whom this author spent some time interviewing soldiers about their experience in Iraq. While this statement seems to be arguing against the view of war propounded by NCW advocates—‘the enemy ... is not connected by a vast suite of electronics packages’— what is interesting about this comment is that Chiarelli is in fact a strong advocate of the use of advanced networked technologies and has been responsible for transitioning transformational technologies into use in the division of his own accord. This includes ensuring 1st Cavalry was the first division to go to deployment with DARPA’s untested C2 technology, Command Post of the Future (CPOF), as well as establishing the first divisional-based adaptation of the successful knowledge-sharing website CompanyCommand.com, in the form of CAVNET.<sup>33</sup> The tensions inherent in a thoroughly modern two-star general, who is seeking out and operating transformational technology in a modernised organisational structure, utilising some of the most sophisticated COIN techniques to be used in Baghdad, while advocating against some of the seemingly ingrained features

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<sup>32</sup> Peter W Chiarelli, Patrick R Michaelis, and Geoffrey A Norman, ‘Armor in urban terrain: the critical enabler’, *Armor*, vol. 114, no. 2, 2005, <[http://www.angelfire.com/art2/narod/armour\\_urban\\_terrain\\_iraq/](http://www.angelfire.com/art2/narod/armour_urban_terrain_iraq/)>.

<sup>33</sup> See, FRONTLINE, ‘Innovating and improvising’, Public Broadcasting Service (PBS), 2005, <<http://www.pbs.org/wgbh/pages/frontline/shows/company/lessons/>>.

of NCW such as a softening of armour, is one which pervades the experience of the US Army in Iraq. The messiness of the story of General Chiarelli may, in fact, point to a way of understanding how NCW and COIN interact: in reality, they work (messily, ambiguously) together. The next section will explore this in greater detail, using insights gained from interviews with 1st Cavalry Division.

**‘More a way of battle than an actual way of war.’<sup>34</sup>**

One of the most persuasive criticisms of NCW in the context of COIN operations in Iraq has been a criticism of the way in which NCW conflates the tactical and operational levels of operation with the strategic. That is, while NCW is perhaps an effective prescription for fighting battles, it is not necessarily an effective prescription for winning the strategic war of counterinsurgency. This strategic war involves winning the all-important hearts and minds of a civilian population, and can, paradoxically, be undone by successes at the tactical level. This is especially true if tactical success is achieved at the enormous cost to the civilian population and the built environment that resulted, for example, from the second battle for Fallujah.<sup>35</sup> As

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<sup>34</sup> Antulio J Echevarria, ‘How has war changed since the end of the Cold War?’, *Parameters*, vol. 35, no. 1, 2005, p. 14.

<sup>35</sup> For descriptions of key aspects of the joint Marine Corps–Army–UK Army assault on the town of Fallujah in November 2004, one of the most ferocious battles of the post-invasion campaign, see John F Sattler, and Daniel H Wilson, ‘Operation Al Fajr: the battle of Fallujah—part II’, *Marine Corps Gazette*, vol. 89, no. 7, 2005, pp. 12–24; Calvin, ‘The

Jonathan Keiler argued, ‘The Battle of Fallujah was not a defeat ... but we cannot afford many more like it’.<sup>36</sup>

The concerns outlined above, particularly concerns about stand-off capabilities, also feed into this larger concern that NCW may help win the battle, but will not necessarily help win the war. This concern, that the tactical has overtaken the rightful place of the strategic in NCW theory, is not in fact limited to this arena of US military thought, but extends to analyses of the US military’s prosecution of wars in a number of environments. Indeed, one of the main criticisms of US Army behaviour in Iraq, and in other middle-to-low intensity operations historically (particularly in Vietnam), has been their inability to think and act strategically.<sup>37</sup> As Lieutenant Colonel Echevarria notes, the United States may have a ‘way of battle’ but what it needs is a way of war—a way of winning the overall strategic fight.<sup>38</sup>

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assaultman in an urban environment’; Michael D Skaggs, ‘Tank–infantry integration’, *Marine Corps Gazette*, vol. 89, no. 6, 2005, pp. 41–3.

<sup>36</sup> Jonathan F Keiler, ‘Who won the battle of Fallujah?’, *Proceedings of the US Naval Institute*, January 2005, p. 57, cited, Ricks, *Fiasco*, p. 405.

<sup>37</sup> See, in particular, the scathing assessment of Thomas Ricks on this issue: ‘It is difficult to overstate what a key misstep this lack of strategic direction was—probably the single most significant miscalculation of the entire effort. *In war, the U.S. military would fight hard and well but blindly ...*’ Ricks, *Fiasco*, p. 129 (emphasis added). See also Aylwin-Foster, ‘Changing the Army’; John A Nagl, *Learning to eat soup with a knife: counterinsurgency lessons from Malaya and Vietnam* (2nd edn), University of Chicago Press, Chicago, IL, 2005.

<sup>38</sup> See Antulio J Echevarria, *Toward an American way of war*, Strategic Studies Institute, Carlisle Barracks, PA, 2004.

*The relationship between tactics and strategy: not simple, not causal, but complex*

This paper strongly endorses the need for the US Army to think strategically as well as tactically in its operations. There are a number of instances, some explored above, where the tactics of NCW undermine the strategic purpose of COIN operations. However, issues of scale, of which the relationship between the tactical–operational–strategic levels is but one example, should be addressed carefully: they are rarely simple in their operation. Critics are right to point to consequences from NCW tactical victories that result in an undermining of the strategic, and ultimately *political*, purpose of the Army’s operation, but they should be wary of seeing tactical effects on strategy *only* in such terms. Tactics may not simply support and/or undermine strategic goals, they may change those goals altogether. This is because ‘the political’ is a nebulous and difficult concept to capture; one that responds to the unlikeliest of prompts—as well as the likeliest. Tactics may not only alienate the political process (or support it), but may also *mutate* that process in the most unexpected of ways.

To use only the most obvious and unsubtle of examples, tactical success may alter the nature of the enemy you are fighting, and that may, in turn, alter your strategic aims. This is particularly the case when fighting a multi-headed beast like the Iraqi insurgency, where success against one kind of insurgent (who

uses one kind of tactic and draws on one kind of funding, say), may drive different elements of the insurgency to the forefront, whose own strategy can then (re)shape the society in which they operate. The reshaping of society has, in fact, been one of the foremost achievements of the insurgents in Iraq to date, with the violent remoulding of Iraqi society on sectarian lines.<sup>39</sup> As has been shown in academic work on conflicts from Bosnia to Northern Ireland, such sectarian reshaping in societies that were previously fairly cohesive—or at least able to function as such through the maintenance of certain trust-building relationships—is an active process that requires constant maintenance through violent and divisive acts.<sup>40</sup> Once the ‘new generation’ of sectarian-focused Iraqi insurgents had come to the forefront, the strategic goals of the US military *shifted*: to win the war it is no longer ‘simply’ necessary to transition authority to Iraqis, it is important to protect and shape Iraqi society in ways that make it functional and cohesive.

*The importance of military ‘orientation’ in shaping the strategic environment*

To make this insight more conceptual, consider this: much of the doctrine available suggests that strategic victory in COIN

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<sup>39</sup> This is not to say that sectarianism did not exist before the mutation of the insurgency: rather, it is to say that it was not as powerful a force in a society otherwise preoccupied with internal struggles built on different lines.

<sup>40</sup> See, for example, Allen Feldman, *Formations of violence: the narrative of the body and political terror in Northern Ireland*, University of Chicago Press, Chicago, IL, 1991; Christopher C Taylor, *Sacrifice as terror: the Rwandan genocide of 1994*, Berg, Oxford, 2001.

operations results not so much from *what* you do (a way of battle), but from the *orientation* with which you proceed—an orientation of cultural sensitivity, respect for the civilian population, limited firepower, and a bias toward using local effort—even if using American troops might seem more efficient.<sup>41</sup> The reason that orientation is considered so important in COIN operations is because it *shapes the strategic environment* (particularly relations with the civilian population, but in other ways as well) in multiple, intangible ways; in an ongoing *process* of interaction with a complex environment, orientation (or modes of behaviour) speaks as loudly as any specific action. Hence it is unsurprising that one of the most damning criticisms made by British Army Brigadier Aylwin-Foster relates to just such an ‘intangible’ in the US Army:

High levels of emotivity, combined with a strong sense of moral authority, could serve to distort collective judgement and invoke responses to insurgent activity that ultimately exacerbated the situation.<sup>42</sup>

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<sup>41</sup> A number of articles written by high-ranking Army officers returning from commanding in Iraq have emphasised these points. See, for example, Peter W Chiarelli, and Patrick R Michaelis, ‘Winning the peace: the requirements for full spectrum operations’, *Military Review*, July–August 2005, pp. 4–17; and David H Petraeus, ‘Learning counterinsurgency: observations from soldiering in Iraq’, *Military Review*, January–February 2006, pp. 2–12. See also Gian Marco Chiarini, ‘Urban warfare in crisis response operations’; William Scott Wallace, ‘21st-century urban operations: four essential points’, *RUSI Defence Systems*, vol. 8, no. 3, 2006, pp. 86–8.

<sup>42</sup> Aylwin-Foster, ‘Changing the Army’, p. 6. In reference in particular to the first battle of Fallujah (which, it has since been suggested was initiated from within the White House against Major General Mattis’ wishes), Aylwin-Foster argues: ‘Even those U.S. commanders and staff who

By contrast, NCW is often thought of as a prescription for *what* to do—a largely operational, or even tactical, entity. That is, in Echevarria’s words, it is thought of as a ‘way of battle’ and not necessarily a way of war. Its emphasis is on winning the encounter with the enemy through utilising the abilities made possible by networking technologies discussed above (increasing speed of command, allowing self-synchronisation, and so on). Hence it is that Frederick Kagan can argue:

The most important problem with these [NCW] visions of war is not anything within them, but the fact that they leave out the most important component of war—that which distinguishes it from organized but senseless violence.<sup>43</sup>

The orientation of the military and its modes of behaviour are part of what provides organised violence with its sense of purpose, and they are vital in the pursuit of any war, and particularly in one battling an insurgency. On Kagan’s reading, NCW does not provide the military with such an orientation, only with a shopping list of more or less effective tactics.

Yet, as has been argued previously, NCW is also about ‘seeing’ the world differently—it is about seeing the world as a system of systems, for example. This paper argues that this

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generally took the broader view of the campaign were so deeply affronted on this occasion [of the mutilation of the four contractor’s bodies] that they became set on the total destruction of the enemy. Under emotional duress even the most broad-minded and pragmatic reverted to type: kinetic.’ Aylwin-Foster, ‘Changing the Army’, p. 6. For the chain of command in ordering the fight in Fallujah in April 2004, see Ricks, *Fiasco*, pp. 330–5.

<sup>43</sup> Kagan, ‘War and aftermath’.

does, in fact, result in a unique ‘orientation’ to the battlespace, where an orientation is a particular way of interacting with the environment in which you find yourself. It is true that NCW theory has failed to think through clearly what this ‘orientation’ might be, and what impact this orientation might have on the strategic environment in which the military is operating. In this regard, critics of NCW have been much more astute in noting the ‘intangibles’ that are lost when operating as a high-tech networked military in a COIN environment. However, the argument of this paper is that while the orientation that comes with NCW is sometimes damaging—for example, when it emphasises ‘stand-off’ that is alienating for the population—it can also be (and has also been) put to useful effect in situations like OIF. The final section explores how this is the case, using brief examples drawn from the author’s interview data collected with the 1st Cavalry Division.

## **ORIENTING THE US ARMY IN IRAQ**

The previous section argued that, despite some relatively substantial incompatibilities between the tactics of NCW and the strategy of COIN operations, the task of thinking about the relationship between the two should not be abandoned. Instead, it argued for a more nuanced conception of the relationship between strategy and tactics, arguing that sometimes tactics can alter or shape the battlespace in a way

that has unexpected (or expected) strategic effects. It further argued that one of the ways in which tactics become implicated in such complicated effects is through their display of a particular kind of orientation toward the battlespace. An orientation toward war, or the modes of behaviour a military displays when fighting, are considered integral to the strategic goals of COIN, the doctrine of which makes strong suggestions about appropriate stances for the US military. This paper suggests that NCW also encourages its own distinctive modes of behaviour within the battlespace, some of which have been in synergy with the needs of COIN operations. Here we explore some ways in which these modes of behaviour were used effectively by the 1st Cavalry Division, during its rotation in OIF-II from April 2004 to April 2005.

### **The 1st Cavalry Division in Baghdad**

The 1st Cavalry Division's deployment in and around Baghdad under the leadership of Major General Peter Chiarelli has been widely recognised as one of the more successful deployments of US Army troops during this period.<sup>44</sup> As mentioned previously, General Chiarelli was

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<sup>44</sup> See, for example, Richard Lowry, 'What went right: how the U.S. began to quell the insurgency in Iraq', *National Review*, vol. 57, no. 8, 2005, p. 29; Aylwin-Foster, 'Changing the Army', p. 5; William Scott Wallace, '21st-century urban operations', p. 88. Chiarelli has since been promoted to Lieutenant General.

leading an active, modernising force within the already digital division, and approached the fight in Baghdad with an eye to conducting what he termed ‘full-spectrum operations.’<sup>45</sup> In particular, he pursued five lines of operation in order to attempt to subvert support for the insurgency: combat operations (carefully targeted to disrupt insurgent activities); training and employing Iraqi security forces; providing essential services (and through their rebuilding, jobs for the local population); promoting indigenous governance; and promoting economic pluralism (an economy not simply based on the service of US contracts).<sup>46</sup>

One of the great success stories of the cavalry’s deployment in Baghdad was their interaction with Sadr City, the giant Shi’a slum to the north-east of the city proper. As is well known, by mid-2003 Sadr City had become a haven for the Mahdi Army and its leader, Muqtada al-Sadr, who would carry out insurgent operations throughout the area, into Baghdad proper and into neighbouring towns such as Baqubah.<sup>47</sup> Just as the 1st Cavalry Division took over responsibility for the area, during April 2004, Muqtada al-Sadr began fighting as part of a coordinated insurgent uprising, and had gained

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<sup>45</sup> For a full account of the 1st Cavalry Division’s approach to operations during their rotation, see Chiarelli and Michaelis, ‘Winning the peace’, *Military Review*, July–August 2005.

<sup>46</sup> Chiarelli and Michaelis, ‘Winning the peace’, pp. 7–14.

<sup>47</sup> For an account of the way in which relations with Muqtada al-Sadr went from uneasy coexistence to open hostility as a result of US bungling of relations with the Shi’a leader, see Ricks, *Fiasco*, pp. 335–7.

control of almost the entirety of Sadr City, including key infrastructure such as electrical substations. His intention was to provide an alternative government to that offered by the interim Coalition Provisional Authority—and particularly, an alternative to the one that would eventually be offered by the new Iraqi Government to be formed under a constitution for which elections would be held in January 2005.

The 1st Cavalry's plan of attack involved major investment in infrastructure rebuilding, the use of local labour to support that process, the provision of basic services, ensuring there were Iraqi 'cops on the beat' to provide basic security, and combat operations that were based on:

Precision analysis of insurgent networks, logistics, financing, and support integrated with tactical human intelligence and national-level collection and exploitation assets ...<sup>48</sup>

Maintaining the rebuilding processes, even when a ceasefire that had enabled the rebuilding to begin had broken down, was part of the essential process of undermining the ability of al-Sadr to claim legitimacy with the local population as an alternative leader. During this time, giving literal rendering to the Marine Corps notion of a three-block war, combat operations were being conducted in a precision manner mere blocks away from the rebuilding process.<sup>49</sup> The intervention was ultimately so successful that the number of significant

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<sup>48</sup> Chiarelli and Michaelis, 'Winning the peace', p. 7.

<sup>49</sup> William Scott Wallace, '21st-century urban operations', p. 88.

activities in the area went from 160 a week in August 2004 to under ten a week, ‘at which point’, Chiarelli notes, ‘it gets hard to differentiate between crime and insurgent attacks’.<sup>50</sup>

### **How they did it: the 1st Cavalry and its interaction with the battlespace**

The success of urban operations in Iraq and elsewhere is the result of analysing each situation to develop and apply distinct and often unique solutions. Frequently, militaries adapt technologies to tactical realities rather than allow technology to drive tactics. Quite literally, today’s technological solution might need to be modified, adjusted or changed entirely for tomorrow’s urban fight.<sup>51</sup>

Obviously, one of the key factors to the success of the 1st Cavalry Division in Sadr City and beyond was the quality of leadership provided by the commanding general and the commanding officers at brigade level and below. The strategic vision presented by General Chiarelli in articles and speeches recounting his experience is a clear example of excellent COIN doctrine in operation.

Yet, while leadership is important, to focus on this exclusively is to ignore some of the other features of the 1st Cavalry’s operation in OIF-II. The 1st Cavalry Division is one of the ‘completed’ Force XXI digitised divisions, and prides itself on

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<sup>50</sup> Lowry, ‘What went right’.

<sup>51</sup> William Scott Wallace, ‘21st-century urban operations’, p. 88.

its technological sophistication. In this, General Chiarelli and the 1st Cavalry Division were a perfect match, as General Chiarelli is a technology enthusiast when he thinks it is useful. For example, one of General Chiarelli's earliest acts as divisional commander was to appoint Major Patrick Michaelis as 'task force chief knowledge officer'. This was an improvised position that was designed to ensure that ICTs was being used to gain the greatest tactical, operational and strategic effect. Two particularly good examples of this were the introduction of the Command Post of the Future (CPOF, pronounced c-pof) C2 technology into the division (mere weeks before their deployment), and the innovation of CAVNET, a tactical level website for company-level officers and NCOs to share insights that enable them to 'prepare for the next patrol, not for the next war'.<sup>52</sup>

It is argued here that part of the cavalry's successful orientation to the battlespace derived from these net-centric origins, and we will look briefly at just one particular way in which this occurred—how the use of CPOF enabled a specific way of interacting with the battlespace.<sup>53</sup>

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<sup>52</sup> Major Michaelis, cited in FRONTLINE, 'Innovating and improvising'.

<sup>53</sup> For a more detailed exploration of the 1st Cavalry Division's use of CPOF, see Caroline Croser, 'Commanding the future: command and control in a networked environment', *Defense & Security Analysis*, vol. 22, no. 2, 2006, pp. 197–202.

*Command Post of the Future and command behaviour in Baghdad*

CPOF is a C2 system that brings together the information available in the Army's C2 'system of systems', ABCS, in a format that allows the easy comprehension, manipulation and communication of information of all kinds regarding the battlespace.<sup>54</sup> Distributed throughout the division to each brigade-level tactical operations centre (TOC), and to some battalion TOCs as well, CPOF essentially consists of two related functions, displayed, for convenience, on two adjacent computer screens.<sup>55</sup>

The first screen shows a geographic-information system (GIS) overlay of important battlespace information, particularly blue and red force locations provided through the Blue Force Tracker/Force XXI Battle Command, Brigade and Below (BFT/FBCB2) systems, on a clickable, scaleable map/satellite hybrid image that is not unlike Google 'Earth'. This information is further updated and customised by the 'battle captain' to whom the use of CPOF generally falls, who adds icons representing incidents as they are reported, filters out irrelevant information, and chooses the scale at which the

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<sup>54</sup> For more detail on the components of the Army Battle Command System, see US Army PEO STRI, 'Army tactical command and control systems', 2004, <<http://www.peostri.army.mil/PRODUCTS/ABCS/atccs.jsp>>.

<sup>55</sup> In fact, the CPOF system as deployed with the 1st Cavalry Division consisted of three functions, with three screens, but the other function ('Oculus') was not widely used within the division and so has been excluded from the discussion for the sake of brevity.

CPOF screen is shown.<sup>56</sup> There are three significant features in addition to these that make this different from other forms of recording significant activities. One, the user is able to easily create and move between other screens emphasising different aspects of the Area of Operations (AO). Two, the user is able to create new (and use pre-existing) overlay features such as ethnic composition density maps, mosque locations, IED placement density, and so on, and to illustrate more conventional planning features like phase lines and patrol routes with drawing tools. Three, the CPOF screen is projected at the front of the TOC to form a constantly updated, easily readable image of the battlespace for the whole command staff.

The second screen at first sight seems almost identical to the first, but is, in fact, what makes the system unique. It consists of the screens being used by all other CPOF users as they are distributed through the battlespace, tabbed for easy browsing. These screens can be altered by geographically dispersed users with appropriate permissions, and 'cloned' by a user for their own purposes. This ability to see a real-time version of what other TOCs are seeing and doing enables both collaborative

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<sup>56</sup> For a detailed description of the role of the battle captain in US Army tactical operations centres, see, Marcus Oliviera, 'What now, battle captain? The who, what and how of the job on nobody's books, but found in every unit's TOC', *Combat Training Center Quarterly Bulletin*, 2nd Qtr, 1995, <[http://www.globalsecurity.org/military/library/report/call/call\\_2qfy95\\_ctcchap1.htm](http://www.globalsecurity.org/military/library/report/call/call_2qfy95_ctcchap1.htm)>.

planning and the easy dissemination of the commanding general's intent. For example, each day for the 1st Cavalry Division during its deployment began with a commander's update briefing, 'hosted' by the divisional headquarters, with other CPOF users monitoring what the division presented.

A final point to note about CPOF usage in the 1st Cavalry Division is that General Chiarelli insisted upon its use. If it was not on CPOF, then Chiarelli was not interested in hearing about it, one interviewee said. This determination to ensure the full use of the technology is precisely the kind of intangible feature of a division's orientation to the battlespace on which this paper has laid emphasis. It is telling that the 1st Cavalry Division's replacement, the 3rd Infantry Division, was not as enthusiastic in its embrace of the technology, and this ultimately resulted in the division using it in more static ways; for example, through allowing the inclusion of PowerPoint slides to show information overlays rather than directly putting information into the system.<sup>57</sup>

### *What 'kind' of battlespace?*

One of the most interesting things to emerge from the interviews conducted with CPOF users across the division was the way in which they understood the battlespace to be

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<sup>57</sup> This is not intended as a criticism of 3ID, but serves as a reminder that technology is far from determinative of organisational impact, a fact often forgotten in the transformation debate.

constructed. One particular feature of this battlespace is the way in which it is never resolved into a single, definite picture: rather, the battlespace appears (literally) as constantly updated, fluid and always in the process of construction. Unsuccessful CPOF users were, according to interviewees, those who could not ‘hack the pace’ of the system and, implicitly, the battlespace. CPOF could be unforgiving in one sense, demanding a constant attention to detail and many skills familiar to frequent Internet users, such as the ability to multi-task, to move through levels quickly, to navigate connected information as though hyperlinked and to see patterns emerging at many levels. However, it was also a more-forgiving system that there was never really a sense of needing to entirely ‘capture’ the experience of Baghdad authoritatively for the commanding officer. The rate of change allowed failures of visualising the battlespace to be quickly lost in time.

A second, related feature was the way in which the battlespace was visualised in ‘multiples’. The multiple, overlapping lines of operation conceptually outlined by General Chiarelli above are reflected in CPOF in the multiple, overlapping pictures of the battlespace that focus on different elements (social, physical, infrastructural, criminal) and different events, use different scales and refer to different time lines. Some screens refer to the day’s activity, some compile information for a much longer period of time—weeks or even months. Overlapping battlespaces are an inevitable consequence for a

command structure that understands that sequential plans of attack in COIN operations allow insurgent leaders to solidify their psychological and structural support throughout the community in the areas not being addressed.<sup>58</sup> Interestingly here, the battlespace comes to be seen as a ‘system of systems’ itself. This is not a simple word game, but a visible result for users of CPOF: the tallying of trends, the constant changing of view between different aspects of the city, the interaction between things happening on your screen as opposed to the screen showing in a TOC across the city—all of these emphasised the interconnected nature of the city.

It would seem easy to argue that the loss of a ‘grand narrative’ of battle that accompanies such an orientation to the battlespace—an orientation that multiplies, distributes and fragments singular accounts of what is happening—would in fact undermine attempts to engage the battlespace at a strategic level. Indeed, the simple phrasing of the words ‘strategic level’ implies a need for synoptic oversight (this level ‘overlooks’ that), which CPOF does not intuitively provide—at least, not as it was used by the 1st Cavalry Division. Yet CPOF was not an agent of chaos in TOCs throughout the division, multiplying accounts of the battlespace until there was no order possible. Rather, CPOF was held in high regard by almost all interviewees as an excellent means of communicating and visualising the battlespace. Because of its ability to hold the

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<sup>58</sup> See Chiarelli and Michaelis, ‘Winning the peace’, p. 4.

multiple faces of the battlespace in tension with one another, CPOF became rather opposite to that Clausewitzian description of information in war as a ‘sea [that] breaks its fury’ on the commander.<sup>59</sup> The CPOF did not assault the commander with reports, it provided a resource by which one could navigate them. For the battle captain, while information did batter like the sea (from the radio, from secure net and so on), in CPOF it was also navigable like a river: something through which he moved at will to find the appropriate answers.<sup>60</sup>

CPOF, then, was in some ways the perfect technology for COIN operations, which must pursue multiple lines of operation simultaneously. Used in conjunction with stand-off ISR, HUMINT, statistical analysis of SIGACT patterns and many other C2 behaviours (network-centric and otherwise), CPOF was part of the way that the 1st Cavalry Division navigated its way through the battlespace. It saw the division orient itself (have a mode of operation) to the multiple and complex nature of the circumstances it was encountering.

The argument here is not that, without CPOF, the 1st Cavalry Division would not have been able to do what it did. Nor is it to say that all divisions using CPOF will end up pursuing the kind of sophisticated COIN strategy pursued by General

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<sup>59</sup> Carl Clausewitz, *On war*, Penguin Books, London, 1968, p. 163.

<sup>60</sup> In another article, the author has referred to this as operating in a ‘mode of encountering.’ See Caroline Croser, ‘Networking security in the space of the city: event-ful battlespaces and the contingency of the encounter’, *Theory & Event*, vol. 10, no. 2, 2007.

Chiarelli. What is being argued is that CPOF made this kind of battlespace a habitual part of the command structure of the cavalry. To cite a previous paper on this point:

It allowed that messy (fog of war) reality to be represented on the screen in a state of flux, with priority given not to resolving the picture, but rather to the ability to move through various layers and kinds of information, depending on the immediate command need.<sup>61</sup>

As stated in the epigraph to this section, technologies are being utilised according to tactics that may mutate daily, but it would be a mistake to think, then, that technology itself—and, importantly, what that technology ‘stands for’—has no impact on the way these tactics mutate, and, in turn, the strategic environment that is shaped by the tactical mutations. Rather, the technology may lend itself to particular kinds of behaviour, so that, even as tactics change, the orientation remains the same.

## CONCLUSION

There may be no single, definitive net-centric orientation to war, or way of war, but there are orientations that result from the deployment of net-centric technologies in NCW trained units. The 1st Cavalry Division is but one example of a unit with embedded net-centric ‘tendencies’, and its use of CPOF is but one example of that. But it does indicate that to simply dismiss out of hand the relationship between COIN and NCW as

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<sup>61</sup> Croser, ‘Commanding the future’, p. 202.

mutually exclusive is to ignore the highly creative ways in which units trained in the latter may adapt for the former. It may never, for example, have occurred to traditionally trained COIN experts that a battlespace could be addressed in the complex and multiple ways it was addressed by General Chiarelli's soldiers.

This all leads to the more general policy point of this paper, which is to argue for the defence policy community in the United States to move beyond its bickering about whether to transform or not to transform. There are problems with the transformation agenda, to be sure, and US military commanders must be as aware of those in Iraq as Pentagon planners are in Washington. However, US troops are in the process of transforming, a process that will not be undone (not least because of the long lead times involved in force structure planning). At the same time, they are creatively hybridising their multiple backgrounds—conventional war, COIN doctrine, NCW—to come up with effective tools for fighting the current insurgency. At a recent conference on transformation, which issued its proceedings under the exceptionally acute title, *Transformation for what?*, it was argued that field operations were giving the US military a chance to undertake what it termed 'little t' transformation—the quick adaptation to technology by forces experimenting with it under operational conditions.<sup>62</sup> While the issue of operational experimentation remains controversial, with good arguments put against the effectiveness

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<sup>62</sup> White (ed.), *Transformation for what?*, p. 3.

of its deployment, in some sense it is important to remember that all operations are experiments, and that this is going to be particularly the case if the military goes to war wearing two hats (one transformational, one counterinsurgency). Acknowledging all its failures and problems as a theory, there has still been far too little emphasis placed on the enabling, creative properties of NCW as a process.

For the Australian Army, embarked upon the parallel processes of Hardening and Networking the Army while responding to the Future Land Operating Concept *Adaptive Campaigning*, this raises questions about how the two will interact in practice. While a hardened and networked Army may excel at adaptive campaigning, it may not—effective interaction with complex battlespaces relies not only on equipment, organisation, doctrine and training but, significantly, on the way these things interact to form a much more intangible and difficult to prescribe outcome: a mode or way of war.



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