

On Boyd, Bin Laden, and Fourth Generation Warfare as String Theory

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*'even though much about string theory still lies beyond the bounds of our comprehension,
it has already exposed dramatic new vistas'²*

Introduction

Strategic theory is thriving, if the number of books and debates on the shape of future warfare and the utility of force is any indication. Fourth Generation Warfare (4GW) features prominently in this intellectual endeavor. It is one of the 'big ideas' or 'grand narratives' in contemporary strategic discourse. The religiously inspired suicide attacks and the ensuing Global War On Terror seemed to validate the idea that a new sort of war was in the offing, one that was predicted in the original article on 4GW of 1989. With the bloody Iraqi civil war and US counterinsurgency operations, and continuous counter-terror operations by US forces in Afghanistan and Yemen, 4GW has become iconic for this era, in particular within US military circles. Long a view elaborated only in opinionated journal articles, the idea of 4GW has gained 'hard cover' status with the publication of T.X. Hammes' book *The Sling and the Stone*, a book which has inspired reactions of serious scholars. Its proponents have presented their views for high-level political and military advisers. Meanwhile the idea is being discussed in academic institutions from West Point to the colleges of Oxford and is finding resonance beyond the military community, including Al Qaeda³. It has also invited dismissive comments.

The problem with 4GW however, is its jelly-like character; variable in shape and substance, and refusing to be nailed to the wall. The prime proponents of the idea of 4GW themselves readily acknowledge the evolving and multifaceted nature of the phenomena they are trying to make sense of, and capture, in a coherent concept. At least 6 4GW authors can be identified, all describing the phenomenon at various moments in slightly different terms, referring to emerging incidents, and expanding the meaning of the concept by the inclusion of some new elements gleaned from those incidents in the process. All authors look at the new tools available for non-state actors, but Hammes' study of a recent date pays more attention to insurgencies abroad, while earlier papers looked at potential terrorist attacks with new technological tools at America's homeland. The idea laid down in 1989 has now matured to refer to 9/11 attacks and the insurgencies in Afghanistan and Iraq⁴. Assessing 4GW therefore requires explanation first, and only then critique.

¹ The views expressed by the author reflect a personal opinion and are not in any way representative of either the Netherlands Ministry of Defence or NATO.

² Brian Green, *The Fabric of the Cosmos*, Knopf, New York, 2004, p. 374.

³ See for one recent example of that for instance Keith Adams, 'A Broader Conceptualization of Islam and Terrorism', *Joint Forces Quarterly*, Issue 45, 2nd quarter 2007, pp.66-73. See for the link with Al Qaeda, T.X.Hammes, 'Fourth Generation Warfare Evolves, Fifth Emerges', *Military Review*, May-June, 2007, p.14.

⁴ See for instance Harold Gould and Franklin Spinney, 'Fourth Generation Warfare is Here', article posted on <http://d-n-i.net> on October 15, 2001; Thomas X. Hammes, 'Insurgency: Modern Warfare Evolves into a Fourth Generation', *Strategic Forum*, No.214, January 2005 for the inclusion of 9/11 and the Iraq insurgency respectively. See also the elaborate powerpoint presentation by G.I Wilson, Greg Wilcox and Chet Richards, such as *Fourth Generation Warfare & The OODA Loop; Implications of the Iraqi Insurgency* (December 2004); and by Chet Richards, *Conflict in the*

Thus, after an introductory section on the nature of strategic theory, I will discuss the foundation upon which 4GW is built: the strategic thought of the late John Boyd. This discussion will, in particular, shed light on the strategic logic that 4GW puts the finger at. The third sections shows how 4GW is part of, and feeds from, a larger debate on trends in non-western – asymmetric or non-trinitarian – modes of warfare and the possible implications for the West. Against this background, the fourth section highlights the core trends and dynamics 4GW puts the spotlight on. These sections combined serve as an explanation of 4GW, but also position 4GW as an exercise in strategic thinking. Section five offers a summary of critiques on 4GW that have been developed in the past years. A brief conclusion will suffice to answer the question of the merits of 4GW. I will argue that 4GW may be akin to a string theory of contemporary strategic studies; not necessarily right, but certainly relevant, even when turning out to be wrong in the end, for 4GW is a mode of strategic discourse, a valuable exercise in strategic thinking which produces a fascinating and worrisome synthesis of a variety of societal, technological, demographic, political and ideological developments. Obviously, this assessment is based on a particular expectation of what strategic theory should ‘do’.

A note on strategic theory

Expectation management

The original 4GW authors asked the question: “What does the future hold for war in the 21st Century, and how does it affect the American military forces?” 4GW thus aspires to be strategic theory. Strategic theory concerns thoughts about making effective strategy and about the proper use of force. Developing a good strategic theory is a highly problematic and daunting endeavor, and any effort to assess a theory should do so based on an appreciation of the peculiarities of strategic theory. Strategic theory is a strange animal indeed, deviating in some important respects from what is generally considered “proper” scientific theory⁵. Strategic theory cannot obtain a high level of predictive value. The study of strategic behavior falls within the social sciences where few laws have been established because phenomena of social science are complex, with many different influences or “causes” operating on a particular event. At best the social scientist can give only a probability that a particular action will be followed by the desired result⁶. As war too is complex, filled with danger, chance, uncertainty, emotions, and differential talents of commanders, there is no single all embracing formula explaining, describing and predicting strategy and its outcome, as Clausewitz noted. A positive doctrine for warfare is simply not possible, and theory therefore need not be a sort of manual for action⁷. However, as Garnett remarks, some of the most useful theories do not in any way meet the strict requirements of “scientific” theory. If “scientific” is associated with a predictive capacity of theory, indeed, most strategic theories fail⁸. But strategic theory is valuable because of its explanatory value. Despite the fact that generalization and hypotheses may enjoy only limited validity, they

Years Ahead (February 2005 & February 2006), all on www.d-n-i.net; Greg Wilcox and Gary I. Wilson, ‘Military Response to Fourth Generation Warfare in Afghanistan’, at <http://www.emergency.com/2002/4gw5may02.htm>; and Andrew Black, ‘Al-Suri’s Adaptation of fourth Generation Warfare Doctrine’, *Terrorism Monitor* Vol IV, Issue 18, september 21, 2006, pp. 4-7.

⁵ This sections is derived from Frans Osinga, *Science, Strategy and War, The Strategic Theory of John Boyd*, Routledge, Abingdon, 2006, chapter 1.

⁶ Bruce Russett and Harvey Starr, *World Politics, A Menu for Choice*, San Fransico, 1981, p.32. Laws are hypotheses that are confirmed in virtually all of the classes of phenomena to which they are applied.

⁷ Karl von Clausewitz, *On War*, (translation Peter Paret and Michael Howard), Princeton University Press, Princeton, 1976, p. 140.

⁸ John C. Garnett, *Commonsense and the Theory of International Politics*, London: MacMillan, 1984, p. 46.

sometimes throw a good deal of light on strategic behavior in particular conditions and in particular periods of time. If a strategic theory offers better ways of explaining victories and losses it already has much utility for evaluation and policy making, if it can provide some measure of plausible conditional prediction that a certain mode of behavior will result in a higher probability of success – or failure – , it is extremely useful.

Moreover, strategic theories can be categorized in levels according to range of applicability and scope⁹:

1. A level that transcends time, environment, political and social conditions and technology (for instance Clausewitz and Sun Tzu).
2. A level that explains how the geographical and functional complexities of war and strategy interact and complement each other. (Corbett on naval warfare).
3. A level that explains how a particular kind or use of military power strategically affects the course of conflict as a whole. (Mahan on the role of maritime power)
4. A level that explains the character of war in a particular period, keyed to explicit assumptions about the capabilities of different kinds of military power and their terms of effective engagement. (the use of air power as a coercive tool)

Obviously, level 1 (general strategic theory) aspires for a higher level of applicability than level 4 and must therefore be able to account for a larger number of phenomena and aspects of war than a theory that is more conditional in its aspiration as far as applicability is concerned. This affects also what one expects of a new body of thought on the dynamics of contemporary and future conflict. What all levels have in common though is the expectation of strategic theory to educate the mind by providing intellectual organization, defining terms, suggesting connections among apparently disparate matters, and offering speculative consequentialist postulates¹⁰. Theory is important in helping to educate and shedding new light on war. That, and not the aim of developing a general theory which like the Newtonian laws of physics holds up for long periods of time, is the purpose of strategic theory.

Strategic theory and muddy river banks

Developing a strategic theory is difficult for several reasons. First, strategic theory needs to take into account the complex and multidimensional character of strategy and war. Good strategic theory must be holistic, paying due respect for the interdependency of the various elements and dimensions that give form to strategy¹¹. The second problem facing strategic theorists is that the circumstance for which strategic theory is developed will be largely unknown and moreover unknowable much in advance of the moment of testing the strategic theory¹². Moreover, strategic theory is evolutionary in the sense that it evolves by trying to incorporate changes in the strategic landscape, such as novel actors, such as states or terrorist groups, new technologies such as tanks, aircraft or nuclear weapons, or phenomena such as the impact of the industrial revolution or the rise of mass emotions in nationalistically and ideologically inspired wars¹³. Strategists, not surprisingly, have had difficulty abstracting themselves from the features of

⁹ Colin Gray, *Modern Strategy*, Oxford University Press, Oxford, 1999, pp. 125-26.

¹⁰ Ibid, p. 36.

¹¹ Ibid, pp. 24-26.

¹² Bernard Brodie, *War and Politics*, New York: MacMillan, 1973, p. 452.

¹³ See for instance Ken Booth, 'The Evolution of Strategic Thinking', in John Baylis, Ken Booth, John Garnett & Phil Williams, *Contemporary Strategy*, Volume I, Second Edition, New York: Holmes & Meier, 1987.

a given war or period¹⁴, imparting a contemporary color to their military thinking. The paradoxical nature of strategy too does not favor theory development. Strategic theory needs to account for the fact that it is concerned with people that react, learn and anticipate. Precisely because a strategy worked once, it will likely be emulated or at least learned from, and subsequently strategist must devise new constructs and hypothesis that provide a plausible expectation for success¹⁵. So, even when an underlying pattern is discovered and some level of predictability established, the paradoxical nature of strategy guarantees that the pattern will be altered.

This dynamic nature of strategy and war is, of course, not conducive to a steady growth of knowledge. Subsequently strategic theory development does not follow a clear cumulative growth path in which new theories built upon and improves former ones. Instead, the reader is left with an expanding number of partial theories, each of which has a limited range of applicability, be it bound by geography (continental, maritime, urban, jungle), dimension (air, land, sea), weapon technology and combat method (nuclear, terrorism, counter-insurgency, guerrilla), etc. The activities of a strategic theorist can perhaps be likened to the one who attempts to build a house on the muddy bank of a fast flowing river. The patch of sand constantly changes form, solidity and location due to the turbulence of the river, *and* because of the construction activities. The very fact that one places a stone so as to construct a foundation alters the environment. With war and strategic behavior so fundamentally in flux, strategic theory cannot aspire for high standards of parsimony or general applicability and validity, nor one that holds out for a long period of time. Neither should one necessarily expect an all embracing theory to develop from the various partial theories, nor a theory with a high level of predictive capability, the standard of “hard science”. With that in mind, let’s turn our eye toward 4GW.

Take 1: 4GW & John Boyd

All authors of 4GW have in common that they build on the intellectual foundation laid by John Boyd¹⁶. Indeed, the first 4GW article published as early as 1989 was authored by one of Boyd’s close associate, Bill Lind, and a group of like minded officers¹⁷. Often Boyd is remembered only for the famous OODA loop, in which a decisive advantage accrues to the side who can accomplish the cycle of observation, orientation, decision and action in the shortest time. This is partially correct, but understanding 4GW requires a more complete understanding Boyd’s legacy in strategic theory, for 4GW papers harbour several interrelated key notions found in Boyd’s opus *A Discourse on Winning and Losing*:

- The notion of war as a dynamic process of action-reaction.
- An emphasis on other factors than military technology for explaining success and failure, in particular the intangible - mental and moral – dimensions of fighting organizations.
- The metaphor of the opponent as a Complex Adaptive System, which highlights the element of adaptability as a key factor for success of failure in warfare.

¹⁴ Avi Kober, ‘Nomology vs Historicism: Formative Factors in Modern Military Thought’, *Defense Analysis*, Vol. 10, No. 3, 1994, p. 268.

¹⁵ Edward Luttwak, *Strategy, the Logic of War and Peace*, Cambridge, Ma: Harvard University Press, 1987.

¹⁶ This section draws from my book *Science, Strategy and War, The Strategic Theory of John Boyd*, Routledge, Abingdon, 2006, chapters 5 and 6 in particular.

¹⁷ See William Lind, Keith Nightengale, John Schmitt, Joseph Sutton, Gary Wilson, ‘The Changing Face of War: Into the Fourth Generation’, *Marine Corps Gazette*, Oct. 1989, 22-26.

- The dynamic of interaction and isolation; war is a ‘game’ of evolution, and any open system that cannot maintain interaction with its environment will invariably suffer the fate of closed systems in dynamic environments: entropy and decreasing adaptability.
- The image of a swarm-like organization of agile, netted but relatively autonomously operating units, acting in ‘synch’ through an ‘Auftragstaktik’-based command and control set up based on implicit communication;
- The core attributes of manoeuvre and moral conflict, concepts that concisely capture these themes and stand in contrast to the attritionist, force-on-force approach to warfare.

Adaptability & organizational learning

4GW studies contain the idea that the character of war evolves due to the dynamic of multi-dimensional action-reaction processes. Boyd’s lectures on patterns in military history argued that societal, doctrinal and technological developments produce temporary military advantages which, over time, induce responses that aim to mitigate those advantages. Boyd also argued that military technology is just one among many non-technological drivers of change and determinants of success. 4GW authors share Boyd’s concern with the traditional over-reliance of the US military on technology and physical destruction. In stead of technology and the attritionist mindset, both of which Boyd regarded as related and at fault in the Vietnam War, Boyd focused on the intangibles of strategic interactions, such as time, the moral and mental dimensions, organizational culture, and non-technological factors of change. This view is incorporated in the well-known simplified explanatory notion that warfare evolved through generations. 4GW is the next logical evolutionary step following 3GW which is marked by conventional western style military manoeuvre warfare. In contrast, 4GW is distinctly non-conventional and non-military in character. It will be characterized by: very small independent groups or cells acting on mission-type orders; a decreased dependence on logistics support; emphasis on manoeuvre; and psychological goals rather than physical ones. 4GW is a result of a learning process by groups that have seen the superiority of western conventional military forces.

Boyd emphasized such organizational learning, and advocated the creation of adaptive organizations that can thrive amid a volatile environment despite prevailing and unavoidable uncertainty. In his view, the famous OODA-loop is much less a model of decision making than a model of individual and organizational learning and adaptation. In the words he used in the 1970s, it is a model of a “meta-paradigm”, a “theory of intellectual evolution and growth”. The first piece of *A Discourse on Winning and Losing* is an abstract investigation into cognitive processes, and the first key theme to emerge from this work is the fundamental uncertainty of our knowledge concerning our environment, with the subsequent need to continuously evolve our mental models so as to cope with the ever-changing environment. We need to learn and adapt, and be comfortable with the idea that our view of reality is only partly correct, and only for a while. Each action or decision we take in that respect is just a test to see if our hypothesis concerning reality is correct. At heart the OODA loop is an sophisticated epistemological model. Only in the most narrow interpretation may the OODA loop be equated with a decision making cycle and the idea that success accrues from completing this cycle faster than the opponent. In Boyd’s more comprehensive view it stands for the processes of double loop learning, and not only pays attention to information, but also to the influence of culture, experience, worldviews, doctrine, etc. Indeed, the major overarching theme throughout Boyd’s work is the capability to evolve, to adapt, to learn and deny such capability to the enemy. Boyd regards the contestants, the armies, their headquarters and societies in terms of living systems, as organisms, that aim to survive and prosper. To that end they – individuals, platoons, brigades, divisions, army corps, nations, and any other type of social system – must observe, learn and adapt.

Therefore, he asserts in *Patterns of Conflict*, the strategic aim should always be, ‘to diminish the adversary’s capacity to adapt while improving our capacity to adapt as an organic whole, so that our adversary cannot cope while we can cope with events/efforts as they unfold’. At the tactical and operational levels, adaptation can be seen as a function of speed of action and reaction and of information availability. At the strategic level, Boyd notes, adaptation is more indirect and takes longer time intervals. It revolves around adjusting doctrines and force structures and disorienting the opponent’s orientation patterns, or mental images. At the grand-strategic level adaptability revolves around shaping the political and societal environment, including an attractive ideology, and adopting a mode of warfare the opponent is ill-suited to wage. Leaders should develop attractive and inspiring national goals and philosophies that unite and guide the nation as well as attract the uncommitted. Meanwhile they should demonstrate the ruling government is corrupt, morally bankrupt, disconnected from the population, and provoke enemy actions that are considered disproportional and ineffective¹⁸. 4GW papers are pregnant with this notion.

Moral conflict

These definitions were informed by the concepts of moral and manoeuvre conflict, ideas that are integral to 4GW papers, and that Boyd distilled from stripping bare the essential dynamics at play at Blitzkrieg style manoeuvre warfare and guerrilla warfare. In contrast with the attritionist approach, the rationale for physical action in Boyd’s view is not the destruction of the enemy forces, but the mental and moral dislocation, which would erode the cohesion of the enemy organization, which subsequently would facilitate peace-meal destruction of those forces, or would induce paralysis and/or surrender. Manoeuvre conflict achieves this effect by disrupting the information flow and by playing on fear. Primarily positioned in the military domain, it posits that fire and movement are used in combination to tie-up, divert or drain-away the adversary’s attention and strength in order to expose as well as menace and exploit vulnerabilities or weaknesses. The ensuring ambiguity, deception, novelty, and violence (or threat thereof) are used to generate surprise and shock. A welter of threatening events causes an overload beyond one’s mental or physical ability to respond and adapt or endure¹⁹.

Moral Conflict in particular features prominently in 4GW studies. Whereas manoeuvre conflict was mostly geared towards the mental function of individuals and organizations, moral conflict thus homes in on trust, values and moral strength. It is based on, but transcends revolutionary war or guerrilla warfare, as does 4GW literature. Moral conflict focuses on the social bonds of communities, and reads like a description of the insurgency in Iraq and Afghanistan. The main idea comes from the logic behind the guerrilla warfare approach, which is to defeat the existing regime politically by showing they have neither the moral right, nor a demonstrated ability to govern. Guerrillas capitalize on discontent and mistrust which is generated by corruption (real or imagined), exploitation, oppression, incompetence, and the unwanted presence of the existing regime. Thus they can evolve a common cause or a unifying theme as a basis to organize and maintain mass support through a militant political program. They built an administrative and military organization, create a sanctuary, and a communications network under the control of the political leadership of the guerrilla movement. They attempt to subvert the government and convert people, through propaganda, inspiring civil disorder and selected acts of terrorism and hit-and-run raids by tiny cohesive bands. These guerrilla bands do not engage in battle but instead retreat and melt into the environment. The government is encouraged to indiscriminately take harsh reprisal measures against the people in order to associate the government with the expanding climate of mistrust, discord, and moral disintegration. Simultaneously – vide Hamas or Hezbollah - guerrillas aim to exhibit moral

¹⁸ John Boyd, *Patterns Of Conflict*, unpublished presentation, p. 141.

¹⁹ Ibid, p. 114.

authority, offer competence, and provide social services, which assists in further eroding the government's influence, gaining more recruits and multiplying the base areas²⁰.

Thus, the essence of the modern guerrilla campaign, according to Boyd, is thus to: (1) capitalize on corruption, injustice, incompetence, etc., (or their appearances) as a basis to generate an atmosphere of mistrust and discord in order to sever moral bonds that bind people to existing regime. Simultaneously (2) the guerrilla's share existing burdens with the people and work with them to root out and punish corruption, remove injustice, eliminate grievances, etc., as a basis to form moral bonds between the people and guerrillas, in order to bind people to guerrilla philosophy and ideals. The conceptual implication of this is that guerrillas, 'by being able to penetrate the very essence of their adversary's moral-mental-physical being, they generate many moral-mental-physical non-cooperative (or isolated) centers of gravity, as well as subvert or seize those centers of gravity that the adversary regime must depend upon, in order to magnify friction, produce paralysis, and bring about its collapse'. Meanwhile, 'guerrillas shape or influence the moral-mental-physical atmosphere so that potential adversaries, as well as the uncommitted, are drawn toward the guerrilla philosophy and are empathetic toward guerrilla success'²¹.

Synthesizing the essence of guerrilla warfare and Blitzkrieg, Boyd concludes that both aim to²²:

- penetrate an adversary to subvert, disrupt or seize those connections, centers, and activities that provide cohesion (e.g., psychological/moral bonds, communications, lines of communication, command and supply centers).
- exploit ambiguity, deception, superior mobility and sudden violence to generate initial surprise and shock, again and again and again.
- exploit subversion, surprise, shock, disruption and seizure to generate confusion, disorder, panic, etc, thereby shatter cohesion, paralyze effort and bring about adversary collapse.

The abstract 'art of success' thus becomes to:

- Appear to be an unsolvable cryptogram while operating in a directed way to penetrate adversary vulnerabilities and weaknesses in order to isolate him from his allies, pull him apart, and collapse his will to resist, yet:
- Shape or influence events so that we not only magnify our spirit and strength but also influence potential adversaries as well as the uncommitted so that they are drawn toward our philosophy and are empathetic toward our success.

Interaction and isolation

At the most abstract level, he noted in his presentation 'The Strategic Game of ? & ?', these efforts to survive and adapt resemble a game of 'interaction and isolation'. Based on his reading of military history along with a multidisciplinary study of the dynamics of social organisms (including chaos and complexity theory) he came to the conclusion that survival depended on the ability to maintain interaction with the environment. Conversely, whether it concerns tactics or grand strategy, all activities must concern a quest to isolate one's enemy from his external environment. Greg Wilson and Chet Richards have used this concept to illustrate the strategic problems the US is encountering in fighting the 4GW insurgency in Iraq,

²⁰ Ibid.

²¹ Ibid, p. 91.

²² Ibid, p. 98.

stating that the grand strategy is to isolate your enemy across three essential vectors (physical, mental, and moral), while at the same time improving your connectivity across those same vectors²³:

- **Physical isolation** is accomplished by severing communications both to the outside world (i.e. allies) and internal audiences (i.e. between branches of command and between the command organization and its supporters). For instance, the destruction of al Qaeda's training camps and visible communications systems have resulted in a degree of isolation. However, the network-based organizational structure of al Qaeda and its ability to manipulate the media to send messages to supporters has mitigated this effort.
- **Mental isolation** is done through the introduction of ambiguous information, novel situations, and by operating at a tempo an enemy cannot keep up with. A lack of solid information impedes decision making. To illustrate: the rapid emergence of new threats and the myriad of geographically dispersed attacks that require response (from Spain to Saudi Arabia -- from Basra to Mosul) have served to isolate the US on the mental plane. It is very difficult, due to ambiguity of information, to determine who the enemy is.
- **Moral isolation** is achieved when an enemy improves its well being at the expense of others (allies) or violates rules of behaviour they profess to uphold (standards of conduct). When these moral rules are violated, it is very hard to recover, as the excesses at the Abu Ghraib prison demonstrate. The evidence indicates that the US intentionally (in that there was a climate of urgency that permitted it) violated these rules due to desire to gain information needed to fight guerrilla groups in Iraq. There has not been any evidence that al Qaeda sponsored operations have drastically violated any internal moral codes.

In short, isolate an opponent and in due course it will lose internal cohesion and external support, its delayed and misinformed reactions will be ineffective and it will fail to adjust correctly to the changed environment. Change the opponent from an open into a closed system and he will suffer the fate of all closed systems due to the second law of thermodynamics: entropy.

Agile, networked, cells

The corollary, of course, is the imperative to maintain constant interaction between the units of an organization and between the organization and its environment, and the challenge is maintaining cohesion while conducting fluid, varied and rapid actions, despite uncertainty and threats. 4GW papers incorporate Boyd's views on organizational culture, structure and communication processes, which were consistent with his emphasis on adaptability, and the dynamics of interaction-isolation. His views were informed by guerrilla and Stormtroop practices, which always displayed, according to Boyd, stealth, fast-tempo, fluidity-of-action and cohesion of small bands and larger units²⁴. Such units had the latitude to take the sort of initiative required to adapt to the level of uncertainty and volatility of their environment. Decentralization was the key. Whereas standard Pentagon solutions to uncertainty involved increasing investments in C4ISTAR equipment, Boyd aimed for creating adaptable, learning organizations consisting of informally networked teams that could comfortably operate in an insecure environment, due to their reduced information requirements. Combined it would result in a resilient organization.

This also required a departure from the standard top-down hierarchical organizational model and processes. Studies on neurophysiology, systems theory, emerging insights from cognitive sciences, historic

²³ See Greg Wilcox and Chet Richards (December 2004); and Chet Richards (February 2005 & February 2006).

²⁴ Ibid, p. 90.

works on command and morale, and studies on individual and organizational learning, all confirmed his idea that adaptability required an organization marked by trust and open communications between commander and troops; as well as by a reliance on implicit communications, formed by social bonds, training, shared experiences, doctrine, and clear objectives. This needed to be combined with a fostering of low-level initiative and a tolerance for failure. If everyone understands clearly, and is attuned to, the organization's purpose and/or the commander's intent, explicit communication beyond the objective is superfluous. Self-organization will be the result.

In his presentation *Organic Design for Command and Control*, Boyd thus advocates an agile cellular organization - networked through ideology, shared ideas, experience, trust, goals, and doctrine - that thrives in uncertainty and fosters innovation, creativity and initiative. Such a set-up would enable rapid and varied actions in non-linear fashion – distributed operations is the term that is en vogue these days – all unified (“in harmony”) across the theater through a shared implicit perspective on the environment and an awareness of what is expected by higher commands due to the use of *Auftragstaktik*. 4GW authors see this organizational model as a key feature – and strength - of non-state groups such as Hamas and al Qaeda.

Boyd's work thus offered 4GW authors a way of thinking about strategic dynamics. In his own day Boyd was interested in particular in inspiring strategic discourse and wide-ranging and critical thinking. It is this motive that underlies 4GW papers. Boyd's work also provided 4GW authors with an unconventional lexicon to highlight strategic dynamics and a new conceptualization of strategic behaviour and strategic thinking. The theme of adaptability, the network-structure, and the category of moral conflict in particular are evident. 4GW papers depict a war that is played out in the moral dimension; it is a contest of ideas and ideologies. 4GW warriors are bound by shared ideology, values and worldviews, and operate as semi-autonomous agile netted groups, applying guerrilla war methodologies. While constantly adapting their tactics, their strategic aim is to destroy the moral bonds that permit the adversary to exist. They play the game of interaction and isolation. In stead of waging war in the military dimension, they wage it in the political and moral arena.

Take two: non-western modes of warfare

That arena is also the focus of a stream of literature that focussed on ethnic and civil war in the Middle-East, Africa and the Balkans and on the problems of failed states. From the beginning, the 4GW argument has been strongly informed by these studies, which fuelled the argument that the West had lost sight of other non-western (asymmetric) modes of warfare and of the cultural nature of war²⁵. We can regard 4GW as one end of strategic thought, with the RMA discussion, the idea of 'Net Centric Warfare', or 'Spectator Sport Warfare', all inspired by the post Cold War 'American Way of War', holding on to the other end of the rope. Indeed, 4GW is a counterpoint to those ideas. In a time that the Pentagon was focusing on emerging information technology to refine maneuver warfare (3GW), 4GW authors, along with many others, were pointing at *societal* phenomena that they consider more dominant influences on the nature of contemporary and future conflict, the reasons and motives they start or continue, the actors involved, the methods employed and parameters of success. Several studies argued it implied a re-conceptualization of the idea of war, the irrelevance of the Clausewitzian trinitarian paradigm which

²⁵ This section draws from my 'Een nieuwe totale oorlog als dialectisch moment', *Vrede en Veiligheid*, Jaargang 30, Nr. 4, 2001, pp.447-480.

undergirded the western conceptualization of nation-state warfare, and the rise of non-trinitarian warfare, a line of argumentation embedded in 4GW literature.

Non-trinitarian warfare

In 1991 Martin van Creveld famously argued in *The Transformation of War* that the western view of war is not suitable to understand the dynamics of future conflicts. The western model of state versus state warfare by large armoured forces is obsolete, due to the ever present nuclear threat. Second, the state as we know it (government separate from ruler) is also waning. It became the dominant form of political organization in Europe only in 1648. In many parts of the world, states were only established in the 19th & 20th centuries through colonization/decolonization. Some parts of the world never developed functioning states at all. Even where states were established, other organizations are now coming to the fore and beginning to wage war not involving governments, people, and armies, but groups we today call “terrorists”, tribes, religious groups, commercial groups, criminal groups, insurgencies, in short, non-state actors²⁶. Such non-state actors wage war in a fundamentally different way than nation-states. War is a cultural phenomenon, and for many peoples war may have different purposes (symbolic, ritual or existential) and follow different rules, and may not be so linked and constrained by politics, and not be as instrumental as western nations have become accustomed to²⁷. This fundamental difference produces very different strategic dynamics. With the western model of the nation-state losing ground, this non-trinitarian way spells changes in terms of by whom future wars will be fought, what they will be about, how they will be fought, what wars will be fought for and why people participate in it.

Whereas states have strongly regulated war and violence, and at least make a deliberate effort to tie war to specific political cost/benefit calculations, such non-state actors (and sometimes states) wage war because of grievances, objectives, glory of individuals, or the status in a tribe; for obtaining the spoils of war - booty, slaves, territory, women; for obtaining prisoners for religious reasons; because of doctrinal, ethic or religious differences; because of revenge and justice to avenge perceived wrongs; or because of community honor. Literally everybody takes part in such conflicts, there are no non-combatants. Distinctions between war and crime will break down, as will the difference between armed forces and civilians. Battles will be replaced by skirmishes, bombings and massacres. Much of the task of defending a society against non-trinitarian warfare will fall to private security companies, with a corresponding decrease in the utility, size, and technological complexity (cost) of military forces. Thus, armies will shrink in size and whither away, to be replaced by police-like security forces on the one hand and armed gangs on the other. Considering the emotions involved, the side with the more rational interests will most likely lose. The western model of the nation-state as the dominant form of political organization and its associated form of warfare will go the way of the dinosaurs.

Wars of the Third Kind

Political scientists Kalevi Holsti continued this argument, pointing at the fundamentally different political processes in a large number of ‘Wars of the Third Kind’, while Mary Kaldor labelled them *New Wars*²⁸.

²⁶ See Martin van Creveld, *The Transformation of War*, The Free Press, New York, 1991; and *The Rise and Decline of the State*, Cambridge University Press, Cambridge, 1999.

²⁷ This is the contested but nevertheless pertinent argument that historians John Keegan, Martin van Creveld and some others make. See for a concise discussion and refutation Christopher Bassford, ‘John Keegan and the Grand Tradition of Trashing Clausewitz’, *War and History*, Volume 1, No.3 (November 1994). For a recent study in military cultures which highlights the alternatives to the Western instrumentalist view of war, see for instance Christopher Coker, *Waging War Without Warriors, The Changing Culture of Military Conflict*, Boulder, Co.: Lynne Rienner, 2003.

²⁸ Mary Kaldor, *New & Old Wars, Organized violence in a Global Era*, Polity Press, Cambridge, 1999.

Both agree that security between states in the Third World has become increasingly dependent upon security within those states and international security problems are essentially a problem of domestic politics²⁹. Identity politics is central to these problems: the exclusive claim to power on the basis of tribe, nation, clan or religious community. Moreover, war is not regarded as something that needs to be finished. These protracted wars rage in regions where local production has declined and state revenues are very low, owing to widespread corruption. In this context the warring states seek finance from external sources, Diaspora support, taxation of humanitarian aid and through negative redistribution of resources locally—looting, pillaging, enforcing unequal terms of trade through checkpoints and other restrictions, exhorting money, etc³⁰. All of these sources of finance depend on continued violence. The consequence is a set of predatory social relations that have a tendency to spread³¹. Because the various warring and criminal parties share the aim of sowing fear and hatred, they operate in a way that is mutually re-enforcing, helping each other to create a climate of insecurity and suspicion³². This echoes van Creveld's statement that 'there exists a sense in which war, more than any other human activity, can make sense only to the extent that it is experienced not as a means but as an end'³³.

Indeed, both agree with van Creveld that modern war is of intrastate nature in which the Western rules and conventions guiding and constraining the conduct of war do not apply at all. There are no fronts, no campaigns, no bases, no uniforms, no publicly displayed honors, and no respect for the territorial limits of states. In wars between communities as opposed to armies, everyone is automatically labeled a combatant merely by virtue of their identity, and every home, church, government office, school, highway and village is a battleground³⁴. Conventional battles of large armies are absent here and military victory is not decisive, nor aimed at. Instead, territorial gains are aimed at through acquiring political power. Weapons and methods to gain political power include ethnic cleansing, rape, assassination of key figures of the opponent, and terror³⁵. 'This is a new age of warlordism' Ralph Peters maintains: 'paramilitary warriors—thugs whose talent for violence blossoms in civil war—defy legitimate governments and increasingly end up leading governments they have overturned'³⁶.

These wars are difficult to approach from the Clausewitzian paradigm, according to van Creveld: 'the main purpose of the use of force in Europe for the past 350 years has been primarily to advance and/or protect the interests of the state. War has been political'. However, 'war as a continuation of politics by other means' does no longer apply 'when the stakes are highest and a community strains every sinew in a life and death struggle. The ordinary strategic terminology fails. To say that war is 'an instrument' serving the 'policy' of the community that 'wages' it is to stretch all three terms to the point of meaninglessness. Where the distinction between ends and means breaks down, even the idea of war fought 'for' something

²⁹ Kalevi J. Holsti, *The State, War, and the State of War*, Cambridge University Press, Cambridge, 1996, pp. 14, 15. Others too have described this type of conflict. See for instance Michael Ignatieff, *Blood and Belonging*, London: Vintage, 1994; and *The Warrior's Honor*, London: Vintage, 1999; or Robert D. Kaplan, *The Coming Anarchy*, New York: Vintage, 2001.

³⁰ Mary Kaldor, 'Introduction', in Mary Kaldor (ed.), *Global Insecurity*, London: Cassell/Pinter, 2000, pp. 5-6.

³¹ *Ibid.*,

³² Kaldor, (1999), *op. cit.*, p. 9.

³³ Martin van Creveld (1991), p. 221.

³⁴ Holsti, *op. cit.*, pp. 36-39.

³⁵ Kaldor (2000), *op. cit.*, p. 6.

³⁶ Ralph Peters, 'The New Warrior Class', *Parameters*, Summer 1994, p. 16. See also his book *Fighting for the Future*, Mechanicsburg, PA: Stackpole Books, 1999.

is only barely applicable. War of this type merges with policy, becomes policy, is policy³⁷. Subsequently, van Creveld warns, ‘much of present day military power is simply irrelevant as an instrument for extending or defending political interest over much of the globe’³⁸.

War amongst the people

These enduring types of conflict, and the problems the west is currently encountering in operations in Africa, the Middle-East and Central Asia, has sparked also an academic interest in the dynamics at play within, and the continuing role of traditional foundations of communities, such as clans, tribes, ethnic and religious groups, and in patterns of criminal gangs and drug kartels. It has also rekindled the interest in the cultural aspects of local conflicts, the role of ideology, ideas, myths, and dogma’s, and the contrast between modernist and traditional worldviews. It reached the policy level in the *EU Security Strategy* of December 2004, which recognizes that such traditional groups and networks succeed in undermining local state authority and control, and resist the efforts of external parties, such as western nations, to help create viable nation-states that might contribute to stabilizing a region³⁹. Indeed, black holes in the fabric of the international system define areas where the idea of the nation-state has not replaced and eradicated the old ties of blood and belonging, and where sources of conflict and instability reside⁴⁰. Ralph Peters sums it up; the primitive endures, and while we may be unbeatable on the battlefield, that battlefield is of declining relevance⁴¹. General Sir Rupert Smith – in only a slightly less ominous tone - in turn calls these conflicts *War Amongst The People*, and told UK Prime Minister Tony Blair it is nothing less than a radical shift in the paradigm of war. The essential difference is that military force is no longer used to decide the political dispute, but rather to create a condition in which a strategic result is achieved. We are in a world of continual confrontations and conflicts in which the military acts support the achievement of the desired outcome by other means. The problem is, he noted, western states are forced to engage in these *War Amongst the People*, in which our opponents, those formless non-state actors, appear to understand the utility of force better than we do.⁴²

Strong credentials

Clearly, 4GW authors were not, and are not, alone in seeing new and disturbing landmarks arising that increasingly define the strategic landscape, and their work echoes other studies, lending it credence. Bill Lind, for instance, one of the original authors of 4GW, focuses on the decline of the nation-state as a prime driver for change in the nature of war. In his view 4GW is defined by the loss of the state’s

³⁷ Van Creveld (1991), p. 142-43.

³⁸ Ibid, p. 27.

³⁹ Just to get a flavour of this research interest, see John Arquilla and David Ronfeld (eds), *Networks and Netwars, The Future of Terror, Crime and Militancy*, RAND, Santa Monica, 2001; Michael Ignatieff, *Blood and Belonging*, Vintage, London, 1994; and Robert Bunker (ed), *Non-State Threats and Future Wars*, Frank Cass, London, 2003; Brandan Wilson, ‘Tribal Tendencies, Global Realities: Islamic Group Dynamics in the Modern World’, Center for Contemporary Conflict, Naval Postgraduate School, Monterey, June 2, 2003; David Gompert, *Heads We Win, The Cognitive Side of Counterinsurgency*, RAND, Santa Monica, 2007; or the studies by Jessica Stern, *Terror in the name of God*, Ecco, New York, 2003; Marc Sageman, *Understanding Terror Networks*, University of Pennsylvania Press, Philadelphia, 2004; and Mark Juergensmeyer, *Terror in the Mind of God, The Global Rise of Religious Violence*, University of California Press, Berkeley, 2001.

⁴⁰ For an exploration of the black holes concept, see Rem Korteweg and David Ehrhardt, *Terrorist Black Holes, A Study into Terrorists Sanctuaries and Governmental Weakness*, CCSS Report, The Hague, November 2005.

⁴¹ Ralph Peters, *Fighting for the Future*, Stackpole Books, Mechanicsburg, 1999, p. 171.

⁴² Sir Rupert Smith and Ilana Bet-El, *The Utility of Force*, presentation to the prime minister, at <http://www.number-10.gov.uk/output/page10724.asp>, accessed 30 March 2007; and Sir Rupert Smith, *The Utility of Force, The Art of War in the Modern World*, Knopf, New York, 2005.

monopoly on war and on the first loyalty of its citizens, and by the rise of non-state entities that command people's primary loyalty and that wage war. In addition to supra-governmental agencies that chip away at the sovereignty of the nation-state such as the UN, the World Bank, the EU, these entities may be gangs, religions, races and ethnic groups within races, localities, tribes, business enterprises, ideologies, in almost limitless variety. Lind expects – and already discerns - a return to a world of cultures, not merely states, in conflict. Similarly, Hammes' work, based on studies of insurgencies, civil wars and guerrilla warfare, too bear clear marks of this school of thought, describing 4GW as an 'evolved form of insurgency'⁴³. Compared to the debate of the 1990s, however, 4GW papers add a level of urgency to these problematic phenomena.

Take three: 4GW as an Evolved Insurgency.

Catalysts of change

4GW papers tell a tale of continuity combined with tale of change. As John Robb nicely points out, many of the methods used in 4GW aren't new and have robust historical precedent. However, there are important differences in how it is applied today⁴⁴. While painting a very worrisome picture, the previous studies could still be regarded as dealing with conflicts that involved the west only if it chose to do so; they were wars of choice, and not of necessity, as Lawrence Freedman so nicely put it⁴⁵. Not so with 4GW. In contrast to the era of de-colonization or the ethnic conflicts in the Balkan, both developments - the decline of the state and the rise of alternative, often cultural, primary loyalties - manifest themselves not only "over there," but in America and other western states⁴⁶. Hammes argues that insurgency has evolved from Mao to Hamas in the sense that insurgents have acquired the ability, when faced with an external party that is involved, to tailor specific aggressive actions that play national will of that far 'real enemy'. They developed the ability to take the political war to their distant enemy's homeland and destroy his will to continue the struggle. Several interlocking factors contribute to this increased strategic reach of empowered groups, and lend 4GW its essentially subversive and corrosive character.:

- **Global:** modern technologies and economic integration enable global operations.
- **Pervasive:** the decline of nation-state warfare has forced all open conflict into the 4GW mold.
- **Granularity:** extremely small viable groups and a variety of reasons for conflict.
- **Vulnerability:** western societies and economies are increasingly open and vulnerable.
- **Technology:** new technologies have dramatically increased the productivity of small groups of 4GW warriors.
- **Media:** global media saturation makes possible an incredible level of manipulation.

⁴³ This section draws from T.X. Hammes own synopsis in, 'War Evolves into the Fourth Generation', *Contemporary Security Policy*, Vol 26, Nr. 2, August 2005, p.190.

⁴⁴ See <http://globalguerrillas.typepad.com/globalguerrillas> , accessed 2 April 2007.

⁴⁵ See for instance Lawrence Freedman, 'Iraq, Liberal Wars and Illiberal Containment', *Survival*, Vol. 48, no.4, Winter 2006, p.52, in which he repeats this distinction.

⁴⁶ This section draws from William Lind, Maj. John Schmitt and Col. Gary Wilson, 'Fourth Generation Warfare: Another Look', *Marine Corps Gazette*, December 1994, 34-37; William Lind, 'Understanding Fourth Generation War', *Military Review*, September-October 2004;; and Thomas Hammes, 'War Evolves into the Fourth Generation', *Contemporary Security Policy*, Vol 26, Nr. 2, August 2005, 189-221; and *The Sling and the Stone*, Zenith Press, St.Paul, 2004.

- **Networked:** new organizational types made possible by improvements in technology are much better at learning, surviving, and acting.
- **Ideology:** ethnic and religious ideologies are increasingly militant, directly targeting western core values, and succeeding in attracting specific groups of young people in western nations.

Globalization has made access to western countries much easier. The increasing ease of access of media to international events, the enhanced transparency of global developments and incidents, the influence of the media in actually shaping policy, and the proliferation of consumer telecommunications has made it much easier for subversive groups to access western countries, to form networks, to disseminate lessons learned and instruction, to recruit, and/or to spread their messages. With the easy access to technology, widely available common chemicals to produce weapons, and with the ease of travel, the entry costs for waging 4GW in and against open societies have been dramatically lowered. It fuels the rise of radical ideologies, jihadism in particular, attracting a growing crowd among western Muslim youths⁴⁷. In addition, criminal groups, reactionary groups, radical ideologists, and opportunistic groups are increasingly blending in hybrids. As Hammes recently noted, the sad truth is that there is a truly alarming variety of armed groups active in the world today.

The Palestinian Intifada is seen as a worrisome example of these trends. Using networks abroad as well as at home, the Palestinian Intifada played directly to the domestic political process of its enemy. It evoked international support for the Palestinian people, in part by inviting Israeli military overreaction and displaying the results of attacks on civilians in international media, or by painting itself in the role of David – a sling-shot armed kid confronting tanks - and Israel as the oppressor and occupier. They successfully marketed themselves as the victim and thereby discrediting the Israelis. Meanwhile, they made it clear that the fighting would only stop when the Israelis left the occupied territories. With such questionable moral underpinning, parents in Israel started to wonder whether their uniformed sons and daughters should be involved in this risky effort.

The message is clear: 4GW can hold its own against advanced military powers, and only unconventional war works against established powers. War has moved beyond high-technology maneuver war. It shifted from an industrial age focus on the destruction of the enemy's armed forces to an information age focus on changing the minds of the enemy's political decision makers. 4GW is now ubiquitous, and we, the west, find ourselves increasingly under siege, no longer the world's master, merely one contender among many, and sinking down as others rise. And the method will spread, we are told. Most recent 4GW literature points at radical Islamist groups as the most immediate challenge, expanding outward as it does in every direction from its traditional heartland, including into Europe and the US. This also includes Al Qaeda and other extreme Islamists fighting today's insurgencies. Some have pointed at Hezbollah's successes against Israel in the conflict during the summer of 2006, or the international furor over the Danish cartoons and the murder on Theo van Gogh, the Dutch filmmaker. The resurgence of the Taliban in Afghanistan, this time fighting NATO troops, is also regarded as indicative of 4GW. The dire warning is that many countries will evolve 4GW on their soil, in fact, 9/11 brought the changing nature in our living room, it is asserted.

The dynamics of 4GW

⁴⁷ See for a detailed discussion of the role of ideology in recruiting for instance Rohan Gunaratna, 'Ideology in terrorism and counter terrorism', in Anne Aldis and Graeme Herd (eds), *The Ideological War on Terror*, Routledge, London, 2007.

4GW warriors defeat the previous generation – maneuver warfare – by making use of superior political will employed over time. In stead of attempting to win by defeating the enemy’s military forces, 4GW insurgents use all available networks – political, economic, social and military – to convince the enemy’s political decision makers that their strategic goals are either unachievable or too costly for the perceived benefit. They combine guerrilla tactics or civil disobedience with the soft networks of social, cultural and economic ties, disinformation campaigns and innovative political activity to direct attack the enemy’s political will. 4GW aims to paralyze the target state from within.

Following the dynamic laid out by Boyd, 4GW focuses on the moral level, where it works to convince all parties, neutrals as well as belligerents, that the cause for which a Fourth Generation entity is fighting is morally superior. It turns its state enemies inward against themselves on the moral level, making the political calculations of the mental level irrelevant. Politically it involves transnational, national and sub national organizations and networks to convey its message to the target audiences. They see themselves not as military organizations but as webs, and are unified by ideas. Strategically it focuses on breaking the will of decision-makers. It uses different pathways to deliver different messages for different target audiences. The message serves three purposes: to break the enemy’s will; to maintain the will of its own people; and to ensure neutrals remain neutral or provide tacit support to the cause. Operationally it delivers those messages in a variety of ways from high-impact, high profile direct military actions to indirect economic attacks such as those designed to drive up the price of oil, or assassinations of specific government and company officials.

Tactically, 4GW forces avoid direct confrontation if possible, while seeking maximum impact they use materials present in the society under attack, be it industrial chemicals or fertilizers. 4GW warriors use standard guerrilla and terrorism tactics of small highly manoeuvrable agile forces operating in a dispersed autonomous way, their actions informed, inspired, glued, and gaining coherence by shared programs, ideals and hatreds. Witness the indiscriminate use of IEDs and suicide-bombers, 4GW opponents will deliberately not sign up to the Geneva conventions and use whatever means are available in a theatre. There is a blurring of the distinction of peace and war and of the distinction between civilian and military. There will be no definable battlefields or fronts, instead the battlefield is highly dispersed and includes the whole of society. Terrorists use a free society’s freedom and openness against it. Finally, 4GW warriors plan for long wars – decades rather than months or years. It is, as Hammes notes, the antithesis of the high technology, short war the Pentagon is planning to fight.

Countering 4GW

How does one cope with 4GW? Because it is organized to ensure political rather than military success, 4GW is difficult to defeat, so Hammes warns us. No longer is defense only about stopping foreign enemies overseas. Some clues for dealing with 4GW are provided though. First, when getting involved in a 4GW fight, we should be planning for a decades-long commitment. This is considered perhaps the most important characteristic of 4GW. Second, we must integrate all elements of our national power, which also requires a plan, coordinated among the nation’s agencies, not for winning battles, but for winning the war. It also requires a proper grand strategy that offers an appealing vision for the disenchanted we encounter in the world. America, and the West in general, must address the sources of the anti-American, anti-Western rage sweeping the post-colonial world as well as poverty and violations of human rights which are the raw material upon which 4GW feeds. Waging 4GW also calls for building a genuine interagency network, and doing away with 19th century bureaucracies. As 4GW is most about perception, public opinion, culture and the moral dimension, a high degree of local intelligence and cultural sensitivity is required within these networks, as well as a focus on languages, history, internal and international

relationships. Interagency personnel must be deployed overseas along with the military for long periods. When deployed, they need to operate as interagency elements down to the tactical level, abandoning stove-pipes between organizations. This should ensure unity of effort among the range of international organizations, NGOs, and allies active in the theater.

Looking at the current Iraqi insurgency, three authors note that troops need to be able to combine and shift between peace keeping, counter-guerrilla and high intensity combat operations (the famous “Three Block War” model of the US Marines Corps). De-emphasizing kinetic actions, they argue that ammunition in these situations is not bullets, but rather money, food, medicine, education, fuel, employment, recognition and respect. Following Lind, they emphasize de-escalation and stress the criticality of media relations and information operations to shape outside perception. Combined, such measures are aimed at drain support away from insurgents and isolating them⁴⁸.

Based on this analysis, 4GW authors propose a distinct agenda for the US military, and in that they are not unlike other theorists that have developed a theory – or argument – in order to promote a specific agenda, such as Mitchell or Liddell Hart. Lind et. al. warn that the US military has still not discarded the attritionist mindset, except for the US Marines Corps perhaps. Second, they see a danger in the continued refusal of the services to focus training, doctrine and equipment on the sort of conflicts that 4GW describe, and that are expected to be the dominant challenge US forces will face. Pointing their arrows at the high-tech oriented transformation initiative launched by the Pentagon, that once again is focused on conventional warfare, 4GW authors emphasize the importance of non-technological innovation, such as increasing adaptability, leaning, operating in autonomous small groups, like the special forces are accustomed to. Only a low-tech counterinsurgency approach such as ongoing in Afghanistan, may be expected to achieve positive outcomes, after a long while, and improve American security against 4GW warriors.

5GW, the empowered individual and open source warfare

4GW is not the end stage. We may regard each generation of warfare as an enhanced ability to drive ‘deeper’ into the core of an enemy system. From that perspective, 4GW in turn may well evolve into a Fifth Generation. Already some analysts point at the increasing use of easy to come by chemical toxic agents such as resin or anthrax by ‘super-empowered individuals’ or small groups as just such a development, again promising to make current western forces structures and defense policies irrelevant⁴⁹. The most recent label given to this phenomenon is ‘Open Source Warfare’. As John Robb asserts in *Brave New War*, war in the twenty-first century will be very different from what we’ve come to expect. Terrorism and guerrilla warfare are rapidly evolving to allow non-state networks to challenge the structure and order of nation-states. It is a change on par with the rise of the Internet and China, and will dramatically change how we will view security. The same technology that has enabled globalization also allows terrorists, criminals and violent ideologues to join forces against larger adversaries with relative ease and to carry out small, inexpensive actions—like sabotaging an oil pipeline—that will generate a huge return. He shows how taking steps to combat the shutdown of the world’s oil, high-tech, and financial markets could cost us the thing we’ve come to value the most—worldwide economic and cultural integration. For instance, during the summer of 2004, a small group of Iraqi insurgents blew up a southern section of the Iraqi oil

⁴⁸ See the powerpoint presentation by G.I Wilson, Greg Wilcox and Chet Richards (December 2004).

⁴⁹ See for instance John Robb’s website, <http://globalguerrillas.typepad.com/globalguerrillas>; or T.X. Hammes, ‘War Evolves into the Fourth Generation’, *Contemporary Security Policy*, Vol 26, Nr. 2, August 2005, pp. 219-20. This section draws in particular from John Robb, *Brave New World, The Next Stage of Terrorism And The End of Globalization*, John Wiley & Sons, New York, 2007. For very similar observations see also T.X.Hammes, ‘Fourth Generation Warfare Evolves, Fifth Emerges’, *Military Review*, May-June 2007, pp. 14-23.

pipeline infrastructure. This attack cost an estimated \$2,000 to produce, and no attackers were caught, while the explosion cost Iraq \$500 million in lost oil exports—a rate of return 250,000 times the cost of the attack.

This shift from state-against-state conflicts to wars against small, ad hoc bands of like-minded insurgents will lead to a world with as many tiny armies as there are causes to fight for. Our new enemies are looking for gaps in vital systems where a small, cheap action will generate a huge return. This new brand of open-source warfare enables insurgents to coordinate attacks, swarm on targets, and adapt rapidly to changes in their enemy's tactics, all at minimal cost and risk. This evolutionary leap in the methods of warfare makes it possible for extremely small non-state groups to fight states and possibly win on a regular basis. The use of 'systems disruption' as a method of strategic warfare gives rise to a nightmare scenario in which any nation—including the United States—can be driven to bankruptcy by an enemy it can't compete with economically. It is being exported around the world, from Pakistan to Nigeria to Mexico, creating a new class of insurgents Robb calls 'global guerrillas'. We are staring at a future where defeat isn't experienced all at once but as an inevitable withering away of military, economic, and political power through wasting conflicts with minor foes, Robb asserts. It is part of a trend in the process of putting ever more powerful technological tools and the knowledge of how to use them into an ever-increasing number of hands, a theme shared by many esteemed futurists such as Ray Kurtzweil, John Smart and a chief-scientist of NASA, John Bushnell. The new granular level, the realm of super-empowered groups is where the seeds of epochal conflict now reside. The rise of malicious 'smart mobs' is the downside of the Friedman's flattening world⁵⁰.

Take four: critique

Overblown

A lot of critique has justifiably been put on paper recently in particular in response to the publication of *The Sling and the Stone*⁵¹. First, reading 4GW literature one gains an apocalyptic perspective, and a sense of doom for conventional forces, the nation state if not Western civilization. What the authors have in common across their individual papers, is a suggestion of a world in perpetual war and a drawn out conflict with Al Qaeda and similar extremist ideologists. It paints a picture in which western states are under asymmetric attack and constant threat of terror attacks and media manipulation while conducting bloody drawn-out counter-insurgency operations such as ongoing in Iraq. But, in the words of John Mueller, the threat of terrorism, a threat to which 4GW often refer, is overblown⁵². As James Wirtz, Colin Gray, James Evans, Edward Luttwak and John Ferris remark in concert, Hammes credits 4GW warriors with universal and permanent superiority over more conventional opponents, he overestimates their military and political strength, and pays insufficient attentions for problems of converting battlefield

⁵⁰ See for instance Ray Kurtzweil, *The Singularity Is Near*, Viking, London, 2005; Damien Broderick, *Spike, How Our Lives Are Being Transformed By Rapidly Advancing Technologies*, Forge, New York, 2001; and Thomas Friedman, *The World Is Flat*, Farrar, Straus and Giroux, New York, 2005. See Howard Rheingold, *Smart Mobs, The Next Social Revolution*, Basic Books, 2002, for the social implications and in particular chapter 7 for some examples of the political power that may accrue to such groups.

⁵¹ This section draws together the critiques of James Wirtz, John Ferris, Edward Luttwak, Antulio Echevarria II, Michael Evans and Rod Thornton that were published in *Contemporary Security Policy*, Vol. 26, Nr. 2, August 2005. In addition it draws from Antulio Echevarria II, *Fourth Generation Warfare And Other Myths*, Strategic Studies Institute, Carlisle, November 2005; and Colin Gray, *Another Bloody Century*, Weidenfeld & Nicholson, London, 2005, in particular chapter six.

⁵² John Mueller, *Overblown*, The Free Press, New York, 2006.

accomplishments into political success. 4GW warriors are not unstoppable. Terrorism and guerrilla's hardly ever succeed, they actually lose most of their wars – the damage it inflicts is a loss for the victims, not a gain for the perpetrators. Indeed, conventional Western military power is still hugely successful, precisely because it deters certain nation-states and forces potential opponents into adopting modes of warfare that pose a relatively low level of risk. In addition, if we cannot win abroad in an insurgency, why bother if only peripheral interests are involved? Our weaknesses there may be real but irrelevant. Interstate wars, however infrequent they may occur, are much more important, having a significantly greater impact on the balance of power. Indeed, we must contextualize the threat in the wider international system and not become victim of the 'threat of the week' phenomenon.

Flawed history

Second, the history is flawed, in fact it is a-historical. Evans regards 4GW as elegant irrelevance based on polemic rather than paradigm, on mantra rather than method. Hammes attempts to advance a general theory of war for the 21st Century but his linear sequence of generations is historically incorrect: developments often run parallel, are uneven in character, allowing for no neat categorization. Echevarria notes that 4GW is based on a mythical interpretation of the so-called west-phalian system and the fallacious ideas of 'non-trinitarian war' which is founded on a seriously flawed reading of Clausewitz's tome *On War*, the book – by the way - that made clear to anyone that was, is and will always be about the attempt to change the political will of one's opponent. With Douhet in mind, who argued for terror bombing of civilian populations in order to coerce the opponent's government, arguably indeed Hammes is merely stating a truism.

Nothing new

Third, there is hardly anything new under the sun. There have been and always will be clashes of warforms. As Rod Thornton points out, 4GW is just another term for dealing with insurgencies. The insurgency in Iraq, advanced as another manifestation of 4GW, is actually nothing more than the normal response to be expected when one country invades another. The fact that different and opposing factions form a coalition against the invader also has many historical precedents. Asymmetric tactics were also always the hallmark of insurgents and guerrillas. This includes the targeting of important industries or facilities and personnel of NGOs such as UN. Gandhi is an example of the strategic use of non-violent actors, not dissimilar to employing crowds of women and children. Violence reaching us at home was also not uncommon, at least in Europe, in the past three decades when groups such as the Rote Armee Faction and the IRA struck terror in the public hearts. In short, *plus ça change, plus c'est la même chose*.

Conceptually flawed

Fourth, and related to the previous observation, conceptually the threat is addressed in a flawed manner. 4GW is guilty of trying to create too much coherence among disparate events, incidents, localized developments and factions. Most criminal, terrorist and insurgent groups actually are very local in their greed, grievances and activities and only use the 'global insurgency' as a veneer to gain local traction, wider attraction and legitimacy. Their strategic mobility and aspirations, and the expectation that such groups may all cohere against western states, may well be exaggerated. In addition, 4GW seems to lean heavily on case studies such as Vietnam, Iraq and the IDF-Palestinian conflict and extrapolate from that to western states that are in fact not nearly so proximate to areas of instability and are also in contrast quite resilient. There is an obvious danger in that. What applies in Iraq – hardly a modern established stable state – may not apply in the US or Europe, nor is it immediately apparent what the equivalent actors – the terrorist-criminal symbiosis of John Robb - are to the various Sunni and Shi'ite rogues perpetrating the daily atrocities in the streets of Baghdad or the to gangs in Columbia and Nigeria.

Too much war fighting

In 4GW there is also too much focus on war fighting aspect of war. There is a military bias, with an overt agenda that aims to inspire changes in the current structure, capabilities and mind-set of US armed forces. Meanwhile there is insufficient attention for the political aspects of insurgency. 4GW is not war neither is counter-insurgency. The problems 4GW point at require a different vocabulary, approaches and psychologies. When it threatens to hit our home countries, it is a crime, and therefore primarily a job for international security and justice departments, policy forces and other crime-fighting entities. When engaging a 4GW insurgency it must be managed away; it will not be 'won'. We should not look at insurgencies through the prism of warfare. To be sure, Hammes does sketch out briefly, and in contours only, the need for an interagency approach. However, 4GW literature is rather short on policy recommendations. There is no guidance on how to actually make coherence among different departments and organizations. What is also evident is the merits of the rhetorical question: If the neither the heart of the problem, nor the solution are of a military nature, why harp continuously on the requirement for reform of the US military?

Other studies are more informative

Meanwhile, just a scant look at recent peace-keeping, terrorism, and counter-insurgency literature suffices to argue that existing literature is much more detailed and useful. 4GW merely points at problems we have encountered before. As with fighting 4GW, critical to peacekeeping proved the relationship between consent, force, endurance and impartiality⁵³. If a peace operation uses too much force it risks losing its impartiality and crossing the consent divide into open conflict. At the same time, peace keepers must be prepared to use minimum yet sufficient force to counter peace spoilers and induce consent for the operation to succeed. As in 4GW, another critical element is endurance. Often peace keeping operations and their aftermaths involve and require lengthy commitments of the intervening powers in order to rebuild and democratize, just look at the decade-long presence of European forces in the Balkan. These goals can furthermore only be attained if the strategy includes the elements of re-establishing security, empowering civil society, and strengthening democratic institutions, and coordinating international efforts⁵⁴. As one analyst admitted in a critical study, in the final analysis it is a stable, functional and legitimate state, supported by a healthy society, that is the best hedge against terrorism. Thus peace building and, more narrowly, state-building efforts, have a very concrete and critical role to play in anti-terrorism and counter-insurgencies as they are mutually aimed at one of the most effective tools for combating terrorism – the functional and legitimate state⁵⁵.

Legitimacy – objective or through created perception - is key indeed, Gow and Dandeker noted in several studies on the crises of the 1990s⁵⁶. The local population, the home front of the Western politicians, and

⁵³ This sections draws from my chapter 'Venus calling; can NATO cope with 4GW?', in Terry Terriff and Aaron Karp, *The Right War?*, Routledge, forthcoming.

⁵⁴ See for instance von Hippel, op cit, chapter 6, or, more recently and building upon lessons from Kosovo, Afghanistan and Iraq; Seth Jones, Jeremy Wilson, Andrew Rathmell and Jack Riley, *Establishing Law and Order After Conflict*, RAND, Santa Monica, 2005.

⁵⁵ Ekaterina Stepanova, *Anti-Terrorism and Peace-building During and After Conflict*, SIPRI, Stockholm, June 2003, p.49. See for similar comments from a US Special Forces practitioner, Lieutenant Colonel Eric Wendt, 'Strategic Counterinsurgency Modeling, *Special Warfare*, September 2005, pp. 2-13.

⁵⁶ See for instance James Gow and Christopher Dandeker, 'The Legitimation of Strategic Peacekeeping: Military Culture, the Defining Moment', in D.S. Gordon and F.H. Toase (eds), *Aspects of Peacekeeping*, Frank Cass, London, 2001, pp. 181-198.

the wider media-informed world opinion must be convinced that the intervention is based on a legitimate mandate preferably from the UN, and that the prime reason for intervention is indeed in line with the justification offered by the mandate. Second, legitimacy refers to the (perception of the) actual conduct of the troops in the region. Legitimacy is a front. While gaining legal legitimacy is just a phase in the execution of the intervention, maintaining it is an arena for combat in which cultural biases, information operations, media play, propaganda, etc, are the main terrain features. One of the goals of the intervening party was always to create a process in which spoiler actions became increasingly de-legitimized in the eyes of the local population.

Recently, quite a few analysts have revisited counter-insurgency literature to glean old lessons for current problems and noted similar imperatives⁵⁷. One needs to *fracture* the insurgent movement through military, psychological and political means; *de-legitimize* it; *demoralize* it; *de-link* it from internal and external supporters; and *de-resource* it, Steven Metz argues, adding that one also needs the ability to sustain adequate efforts for years, perhaps even decades⁵⁸. Thus, by and large, history suggests that the imperatives of humanitarian intervention operations are compatible or overlapping with the demands of counter-insurgency, and therefore also 'doing' 4GW. 4GW studies could have benefited from this expansive and growing literature.

4GW as String Theory

Exploring the 'edges' of the Clausewitzian paradigm

The critique is well argued. 4GW papers betray a strong American conservative background and dissatisfaction with the prevailing policies of the Pentagon, lamenting the absence of a warrior spirit and cultural awareness and the addiction to fire power, technology and short wars. 4GW authors have a specific agenda, they are biased, and their arguments suffer from it. 4GW may indeed overemphasize unconventional war and may be too eager in relegating conventional forces to the dustbin. They may be too alarmist and pay too much attention to the threats and problems, and not to the solutions. On the other hand, there also seems to be a familiar element in this critique. The 4GW debate perhaps manifests a contrast between historians and futurists or between those who see continuity, or only gradual change and those who are struck by, and give more weight to disruptive innovation and radical change due to cumulating evolutions in 'tipping point' fashion. Moreover, 4GW authors preempt some of the critiques in arguing that theirs is based on 70 years of trends, and that their generations construct is just that, a vehicle for explanation.

Critique concerning the empirical validity of a theory in development too must be regarded with some caution. 4GW authors derive insights and empirical material from a wealth of studies. Moreover, any theorists who claimed to have grasped a new underlying pattern in war, or discerned the shape of future war has run into methodological problems and faced critiques concerning the scientific merits of his work. When Schelling and others put down thoughts on paper on the dynamics of strategic behavior in the

⁵⁷ See for instance Kalev I. Sepp, 'Best Practices in Counterinsurgency', *Military Review*, May-June 2005, pp.8-12; Robert Cassidy, 'Back to Streets without Joy: Counterinsurgency Lessons from Vietnam and Other Small Wars', *Parameters*, Summer 2004, pp.73-83.

⁵⁸ Steven Metz and Raymond Hillen, *Insurgency and Counterinsurgency in the 21st Century: Reconceptualizing Threat and Response*, Strategic Studies Institute, Carlisle Barracks, November 2004. See for similar observations Bruce Hoffman, *Combating Al Qaeda and the Militant Islamic Threat*, Testimony presented to the House Armed Services Committee, February 16, 2006, RAND, Santa Monica, 2006, p.16.

nuclear age he was not on proven ground. Liddell Hart has suffered the same accusations of a-historicity that has been leveled against 4GW. I sympathize with two highly regarded scientists. James B. Conant noted that ‘the history of science demonstrates beyond a doubt that the really revolutionary and significant advances come not from empiricism’. James Rosenau, in similar vein, notes that ‘to think theoretically one must be ready to appreciate and accept the need to sacrifice detailed descriptions for broad observations’⁵⁹.

Where does that leave us? Should we dismiss 4GW altogether as irrelevant, misguided, or even potentially dangerous, as Echevarria asserts? I tend not to agree with such views. First, I believe a postmodern health warning is in order regarding any theory or assessment that sees an absolute truth in a particular strategic idea, be it Clausewitzian or non-trinitarian or otherwise in perspective. So too with some claims of 4GW proponents that theirs is the new paradigm of warfare. Paradigms come, and very rarely go, but most often new ideas make manifest the inconsistencies of a paradigm, and areas that need exploration and refinement. They add, rather than replace. So it is I believe with 4GW. We need to do some expectations management when reading and assessing 4GW literature. I doubt it will reach the status of a level-1 strategic theory, but as a level-4 idea it may be very adequate and quite useful.

Second, the previous pages have highlighted that 4GW literature is part of a stream of ongoing academic research activities that try to discern patterns in the allegedly rapidly changing strategic environment, highlight new players and dynamics and derive the potential implications for security policy. Observations found in 4GW literature are also being discussed in other often detailed studies. 4GW is part of a research program that explores the ‘edges’ of the Clausewitzian paradigm. It is useful in putting the magnifying glass over the problematic meeting of western versus non-western conceptions and methods of war, of the instrumental rational use of force versus the existential experience of war. It balances the traditional military focus on the physical dimension and technology by pointing at the moral-mental dimensions of war, and other intangible factors such as organization and culture. It studies the role of non-state actors (including private military companies) in war and the dynamic of state versus non-state actors. It highlights the blurring of the boundaries: of war and crime, of combatant versus non-combatant, of war and peace, of internal versus external security. It homes in on the nexus of external war and domestic politics in times of increased transparency and media influence. It re-emphasizes the importance of counterinsurgency operations and comprehensive multi-agency approaches to contemporary strategic problems. 4GW authors were, and are, also on the mark in elevating ideas, ideologies, culture, and religions to the center stage of the strategic discourse. Finally, their work is valuable in studying the darker sides, and vulnerabilities, of the netted globalizing outsourcing information society and pointing at the emergence of empowered groups and individuals.

String theory

An analogy for assessing 4GW is string theory. In physics Newtonian laws still apply, but the accepted stature of Newton did not imply there was no room for Einstein’s relativity theory or quantum mechanics. These ideas refined our perception of reality, and pointed at phenomena that the existing theories did not, or could not account for. Highly complex, depicting a world with ten dimensions, String Theory is the latest in the search for a more complete understanding of our reality. Conceived in the 1980s, String Theory is still a work in progress. Posing new questions, it has inspired new and significant research. It has already revealed that the fabric of the cosmos may have many more dimensions than we perceive directly.

⁵⁹ Cited in Abraham Kaplan, *The Conduct of Inquiry*, Chandler Publishing, San Francisco, 1964, p.303; James Rosenau, *The Scientific Study of Foreign Policy*, (2nd edition) New York, 1980, p.26.

But it has also invited the dismissive critique that a theory so removed from empirical testing lies in the realm of philosophy or theology, but not physics. On the positive side, it is accepted that it may not be the final theory, in fact, it may even turn out to be wrong in the end, but wrong in a very fruitful way⁶⁰. Similarly, 4GW is inspiring discussion, debate, frustration, refinement of insights, assertions, conjectures and refutations, in short, like many other works that try to make sense of our uncertain and ever-changing environment, it helps us refine and adjust our orientation pattern and learn. Whatever one may think of 4GW, considering the wide audience, one cannot ignore the importance of it as an idea in strategic theory, and as an appealing, - resonating - description of problems confronting western military and political elites today. 4GW does not cover all aspects of the evolving strategic landscape, and perhaps 4GW is not the entirely academically correct analysis, but as an exercise in strategic thinking, creating a coherent synthesis out of a myriad of disparate trends and developments, it certainly has merits by making people aware of potential contours and dynamics of the future strategic landscape. Boyd would agree with the effort indeed.

⁶⁰ Green, op.cit., p.352.