

Intensive War

...not the beginning, not the middle, not the end...

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...That moves. That does not move; That is far off, That is very near; That is inside all, and that is outside all...

- *From the Isa Upanishad*

...books and bullets have their own destiny...

- *Quoted in Ernst Junger, A Storm of Steel*

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It is necessary to emphasize that the ideas and concepts presented in this work are mine and in no way reflect on the individuals mentioned and/ or quoted herein. As for any failings (of which there must be many), I stand guilty as charged.

Abstract...

With the emergence of the theories and doctrines of the *mode* of combat commonly referred to as network-centric warfare, it is becoming increasingly obvious that global militaries, and particularly the US military and defence establishment, have begun to perceive a shift in the emerging 'strategic' environment. The hitherto rationally predictable security calculus - like the now fading Cold War strategic paradigm - is fast becoming redundant. Among other things, this shift is being increasingly understood as a movement from nation-state threats to decentralised network threats. What is significant about this is that perhaps for the first time in the history of the modern military, the military machine - a state-owned and run apparatus - is thinking of and, in some cases, even operating outside the orbit of the State. This would suggest that either the connection between war and the political is becoming increasingly tenuous, or perhaps war, considered in its originary terms, was and is not really an instrument of any kind, least of all a political one. Thus, this thesis asks: what if war in its most extravagant, uninhibited and originary sense does not serve the State? Pursuant to this, the thesis traces the philosophical backdrop against which the more common theorizations of war and its conduct take place. Taking its investigative analysis further, it demonstrates that, when considered in philosophical terms, though the emergence of the net-centric theories and practices of war potentially carry with them the possibility to render our imagination of war into a state of 'suspended animation', they also carry with/in them a profound 'performative contradiction' that necessarily fractures the state-centric concept of war. This thesis' investigations reveal that such a fracturing far from paralyzing the project of re-problematizing war, affords us an opportunity to rethink war in inhuman, that is to say, in machinic terms.

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List of Abbreviations

ARPANET	Advanced Research Projects Agency Network
C2	Command and Control
CCR	Command and Control Research
CEC	Cooperative Engagement Capability
C-ER/IR	Comprehensive - Extended-Reach/ Information-Rich
COCOM	Combatant Command
COP	Common Operational Picture
EBO	Effects-based Operations
EMP	Electro-Magnetic Pulse
GCCS	Global Command and Control System
GCCS – J	Global Command and Control System - Joint
ICBM	Inter Continental Ballistic Missile
ICT	Information and Communication Technology
IPTO	Information Processing Techniques Office
IT	Information Technology
JIT	Just-In-Time
MAD	Mutually Assured Destruction
MIC	Military-Industrial Complex
MIT	Massachusetts Institute of Technology
MTR	Military-Technical Revolution

NCW	Network-centric Warfare
OFT	Office of Force Transformation
OODA	Observation, Orientation, Decision, Action
OPCOM	Operational Command
RMA	Revolution in Military Affairs
RSC	Reconnaissance-Strike Complex
SA	Situational Awareness, also Shared Awareness
SIOP	Single Integrated Operational Picture
SOS	System of Systems
TACOM	Tactical Command
TPG	Transformation Planning Guide
UAVs	Unmanned Aerial Vehicles
UCAVs	Unmanned Combat Aerial Vehicles
US DoD	United States Department of Defence
W3	World Wide Web
WAN	Wide Area Network
WINTEL	Windows-Intel
WWMCCS	World Wide Military Command and Control System
WYSIWYG	What You See Is What You Get

Chapter One

On How to Read this Thesis or,

...there is another side to heaven...¹

In Difference and Repetition...with War

The dramatic rise in computing power and the viral spread of high-speed information networks - spurred on by the Internet - has heralded the emergence of what is popularly known as the Information Age. Among other things, it is marked by an increasing ability to create/ acquire, organize/ re-arrange, distribute/ disseminate 'information/ knowledge' using sophisticated binary-digital computer systems.² As a consequence, these highly advanced digital and 'digitized' technologies - beneficiaries of the positive effects of Moore's Law³ - are also proliferating as infrastructures, or more precisely, as 'dependency-structures' across a wide variety of ecologies which increasingly complement (and under some circumstances, contradict) the more traditional and commonplace experience of the Real.⁴ This has led, as some suggest, to the progressive

¹ Black Sabbath, "Computer God" from *Dehumanizer*, 1992

² See, for example, Mark Dery, *Escape Velocity: Cyberculture at the end of the Century*, (London: Hodder & Stoughton, 1996)

³ Moore's Law states: "The complexity for minimum component costs has increased at a rate of roughly a factor of two per year ..." in "Cramming more components onto integrated circuits", Gordon E. Moore, *Electronics Magazine*, 19 April, 1965

⁴ "In the Digital Decade, you'll no longer think of the PC as a tool you use only to carry out specific tasks it will become something you come to rely on all the time. The power of the PC will be as ubiquitous and reliable as electricity, and vastly more useful than any single device we use today." - Bill Gates, Chairman and Chief Software Architect, Microsoft Corp., in "Moving into the Digital Decade". Oct, 29, 2001.

compromise of the classical Laws of Thought - the Law of Identity, the Law of Contradiction, and the Law of the Excluded Middle.⁵ The Real, it is contended, has become more *complex* than ever before.⁶ Thus, it is argued, the Age of Information “should be labeled a ‘knowledge revolution’ since it encompasses advances in information technologies that significantly alter the politics, economics, sociology, and culture of knowledge creation and distribution.”⁷ This, in brief, is the backdrop against which the *mode* of combat commonly referred to as Network-centric Warfare (NCW) has emerged.⁸

NCW’s technological signature, if one looks for it, is writ large. Note, for example, the transformation of air fleets of the Second World War and Cold War vintage. Today, increasingly, the ‘intended’ force-posture is overtly curving

Available at <http://www.microsoft.com/presspass/ofnote/10-29digitaldecade.mspix>. Last accessed on Jan, 2006.

⁵ Tom McEvelley, *The Shape of Ancient Thought* [Comparative Studies in Greek and Indian Philosophies], (New York: Allworth Press, 2002), pp 36-37.

⁶ See Williams, Linda, “Mirrors Without Memories: Truth, History and the New Documentary.” *Film Quarterly*. Vol. 46, No. 3, Spring 1993: 12. In this connection, the recent debates in the wake of the launch of Microsoft’s Vista OS, centering on Digital Rights Management (DRM) are informative. See “Windows Vista Content Protection - Twenty Questions (and Answers)” available at <http://windowsvistablog.com/blogs/windowsvista/archive/2007/01/20/windows-vista-content-protection-twenty-questions-and-answers.aspx> The matter at stake is a critical one, for the DRM-related debate stripped off its short-term profiteering vestige, is about asking - What is software? What does owning, making, commodifying mean in the context of information-based software? How does one assign value to that what actually exists, but which, in real material terms, also does not exist?

⁷ Papp, Alberts, Tuyahov, “Historical Impacts of Information Technologies: An Overview” in Alberts & Papp, *The Information Age: An Anthology on its Impact and Consequences*, (Washington, DC: INSS, National Defence University Press, 1998), Available at <http://www.ndu.edu/inss/books/Books%20-%201998/Information%20Age%20Anthology%20-%20Sept%2098/ch02a.html>

⁸ Network-Centric War(fare) (NCW) is most commonly defined as “an information-superiority-enabled concept of operations that generates increased combat power by networking sensors, decision-makers, and shooters to achieve shared awareness, increased speed of command, higher tempo of operations...and a degree of self-sufficiency. In essence, NCW translates information superiority into combat power by effectively linking knowledgable entities in the battlespace.” See Alberts, Gartska, Stein, *Network Centric Warfare – Developing and Leveraging Information Superiority*, (Washington, DC: US DoD, CCRP, 2003), p2. See also, “Net-centric goal: a different military”, Dawn S. Onley, GCN Staff, 11/10/03. *Government Computer News* (GCN), Available at http://www.gcn.com/print/22_32/24048-1.html?topic=interview. Last accessed on July 27, 2007.

towards the development/ acquisition and integration of sophisticated aerospace weapons/ sensor-platforms and suites that create fine grids and meshes of information-flows.⁹ These are meant to contribute to the production and dissemination of a diverse array of transient cartographic images and perspectives – *battlespaces* - with complexly interwoven and inter-dependent intensities, and are most commonly identified in terms of states, or conditions, of alert/ emergency, where/in ‘the enemy’ of the moment is framed and neutralized – physically *and* otherwise.¹⁰ US Navy carrier fleets have repeatedly demonstrated over the past decade that regardless of terrain (accessibility) and weather (visibility) conditions, they can create a remarkably diverse and mobile array of weapon-clusters – battle-nodes - from where a variety of surveillance operations - passive and active - take place – manned or/ and otherwise.¹¹ Displaying the most flexibility in testing the emergent concept(s) of NCW, the US Navy is in the process of transforming itself into a capability-based modular expression of force that can stretch/ extend *battlespace* into the gaps, cracks and faultlines of the familiar dimensions of space and time.¹² In a complementary fashion, ground

⁹ See, for example, the progressive ‘modernization’ of the Indian Air Force - upgrading airframes, improving/ updating radar, weapon, sensor suites, integration with AWACS and Mid-Air Refuellers and real-time linkage with aero-space sensor and communication platforms.

¹⁰For *battlespace*, see Thomas Blackmore, *War X: Human Extensions in Battlespace*. (Toronto: University of Toronto Press, 2005). See also W. Owens, *Dominant Battlespace Knowledge*. (Hawaii: University Press of the Pacific, 2002).

¹¹ See, for example, “Military: The UAV Revolution - Up in the Sky, An Unblinking Eye”, John Barry and Evan Thomas, *Newsweek*, June 9, 2008 Issue. Available at <http://www.newsweek.com/id/139432>. Last accessed on June 9, 2008.

¹² For an account of ‘gaps’ and ‘cores’ see Thomas, P. M. Barnett, *The Pentagon’s New Map – War and Peace in the Twentieth Century*, (New York: Putnam, 2004). For an official account of the ‘modular’ stance, see Ronald O’ Rourke, “Navy Littoral Combat Ship (LCS): Background and Issues for Congress, *CRS Report (21305) for the US Congress*, (Washington, DC: Congressional Research Service, Library of Congress, 2005). See also the updated version (2008) Ronald O’ Rourke, “Navy Littoral Combat Ship (LCS) Program: Background, Oversight Issues, and Options for Congress”, May 23, 2008. Available at http://assets.opencrs.com/rpts/RL33741_20080523.pdf. Last accessed on June, 2008.

formations are also being re-equipped with ‘smart technologies’, which ‘plug’ into the virtual maps that the ‘air-breathing’ and ‘hydro-capable’ platforms create.¹³ Not surprisingly, these ground formations are able to create and project smaller, but highly calibrated, nets and meshes that give their wider - more ‘global’ – counterparts a finer resolution. ‘Digitized formations’ – across the geo-physical-sensorial spectrum – thus are no longer expected to ‘troop’ onto the battlefield, rather, they ‘surge’, ‘swarm’, and quilt *in battlespace* - their primary task being to contribute to the ‘sense and response’ of the ‘full-spectrum’ military-machine to the ever-fluid demands of ‘battle’.¹⁴

A general survey of the current literature on war and its conduct shows that there are two primary views regarding NCW. For the more conservatively inclined, NCW – as the above-mentioned examples illustrate - is simply the ‘mode of operability’ that accompanies the digitization of the *conduct* of war.¹⁵ This point of view holds that while strategy, operations, and tactics may be executed more efficiently – perhaps even differently – with the help of high-speed ICTs (that is to say, if they are digitized), war – the martial context in which these

¹³ “The Soldier as a System – Reflections from Soldier Technology, 2008’, Available at <http://www.defense-update.com/events/2008/summary/soldiertech08.htm>. Last accessed on May 2008. See also, US Training and Doctrine Command (USTRADOC), “Soldier as a System Overview (SaaS)”, prepared for The National Defence Industry Association, May, 2003. Available at www.dtic.mil/ndia/2003smallarms/camp.ppt. Last accessed on May 2007.

¹⁴ See, for example, Blackmore, *War X*, 2005 Also, The US Army’s 4th Infantry Division is a self-confessed example of a ‘digitized division’. See the 4th ID website at <http://www.hood.army.mil/4id/>. Last accessed on Aug. 12, 2006. The classic theoretical works on Swarming as a battle tactic remain the two texts on Swarm Theory in War by Edwards and Arquilla and Ronfeldt. For an example of the ‘surge tactic’ see http://www.spacewar.com/reports/The_Strategy_Of_Surge_In_Iraq_999.html

¹⁵ David Lonsdale, *The Nature of War in the Information Age*, (London: Frank Cass, 2006), p 232

actions take place - remains axiomatic, immutable and *a priori*.¹⁶ In other words, it is suggested, “[T]here appears to be a unity to all strategic experience, regardless of period, polity, or technology”¹⁷ and ‘history’, from this point of view, is the reservoir of approximate-precedents attesting to the claim that while the character of war is subject to change, its nature must be, indeed *is*, eternal.¹⁸ For the conservative theorists, NCW thus represents merely one such change in the character of war.¹⁹

The more radical proponents of the theories of NCW, however, assert that “[A] cursory look into the development of some of the most time-honoured ideas that comprise the principles [of war] will find historical contexts that are completely foreign to us today.”²⁰ Buoyed by the productive (which, in some cases, turn out to be debilitating) capabilities offered by emerging ICTs, the proponents of NCW suggest that an awareness, that is to say, the experience, of these changes “...will, in the coming decade...unfetter us from the requirement to be synchronous in time and space...”²¹ They insist that the “time we live in [is] unlike any other, a time when the pace of change demands that *we change*...it is a

¹⁶ Lonsdale, *The Nature of War in the Information Age*, 2006, pp 40-43

¹⁷ Colin S. Gray, *Modern Strategy*, (Oxford: OUP, 1999), p 8

¹⁸ See, for example, George Tanham, Kanti Bajpai, Amitabh Mattoo Ed. *Securing India – Strategic Thought and Practice in an Emerging Power*, (New Delhi: Manohar Publishers, 1996) p 16

¹⁹ Significantly, this trend was also apparent in the works of Hans Delbruck. See, for example Hans Delbruck, *The Dawn of Modern Warfare: History of the Art of War*, Volume IV, Trans. Walter J. Renfroe Jr., (Lincoln: Univ. Of Nebraska Press, 1990)

²⁰ Robert R. Leonhard, *The Principles of War for the Information Age*, (New York, NY: Presido Press, 1998), p 9.

²¹ Though one would not normally associate Paul Virilio with NCW, his book *Pure War* is a penetrative investigation of the question of speed and war. See Paul Virilio & Sylvère Lotringer, *Pure War*, Trans. M. Polizzotti, (New York: Semiotext(e), 1997). See also *Power to the Edge*, p. xiii

time when our analysis methods are becoming less and less able to shed light on the choices we face.”²² (my emphasis)

Discussing these ‘new dynamics and attributes of conflict’, or simply, of ‘war’, in the Information Age, Arquilla and Ronfeldt note...

[T]he information revolution is altering the nature of conflict across the spectrum...First, this revolution is favouring and strengthening network forms of organization, often giving them an advantage over hierarchical forms...Second, as the information revolution deepens, the conduct and outcome of conflicts increasingly...revolve around ‘knowledge’...Adversaries are learning to emphasize ‘information operations’ and perception management...These propositions cut across the entire conflict spectrum (and thus) Information-age threats are likely to be more diffuse, dispersed, multi-dimensional, non-linear, and ambiguous...²³

Thus, they conclude...

...for myriad of reasons, the world is entering – indeed, it has already entered – a new epoch of conflict (and crime). This epoch will be defined not so much by whether there is more or less conflict than before, but by new dynamics and attributes of conflict...(C)hanges will involve high-tech sensors and weapons that can enable both stand-off and close-in swarming attacks...The protagonists...will

²² Alberts, Gartska, Stein, Signouri, *Understanding Information Warfare*, (Washington, DC: US DoD, CCRP, 2002), p xiii. See also Vice Admiral Cebrowski, “New Rules, New Era – Pentagon Must Embrace Information Age”, *Defence News*, Oct. 21-27, 2002, p 28. The admiral writes, “With the dramatic change in warfare being unleashed by the transition to the information age, future military capabilities must be judged using new criteria...Yet the deeper more profound debate is about how the changing military rule sets that indicate newer sources of power and how they are brought to bear...A new American way of war has emerged – network-centric operations.” Available at http://www.oft.osd.mil/library/library_files/article_27_Defense%20News%20-%20New%20Rules-New%20Era%20-%202021-27%20Oct%202002.htm. Last accessed on July 28, 2004.

²³ Arquilla and Ronfeldt, “The Advent of Netwar (Revisited)” in *Networks and Netwars*, (Santa Monica, CA: RAND, 2001), pp 1-2

be more widely dispersed...more decentralized...and more surreptitious. Offence and defence will be blended. The temporal and spatial dimensions of conflict will be compressed.²⁴

Given this 'operational spread' - unlike in the Post-Industrial Age when war and 'the battlefield' were primarily located at the site of the Physical and the Ideological - in the Information Age - spanning across three domains identified as the Physical, the Cognitive and the Informational²⁵ - War, it is contended, has taken on a richer, deeper, wider and omni-dimensional meaning.²⁶ Thus, when, among others, Arquilla and Ronfeldt discuss this 'new epoch of conflict' - in terms of *cyberwar* and *netwar*²⁷ - there is no mistaking the fact that for them War - in the Digital-Info Age - is less about the political or the technological, rather it *is a matter of 'in-formation'*.²⁸ This suggests a subtle, but significant, shift in the understanding of 'war'. It is also an intellectual project that is often suspected and accused of attempting to distort and, in the more extreme cases, even make irrelevant the canonical sanctity of the Clausewitzian, sub-political, understanding of war.

²⁴ Arquilla & Ronfeldt, "A New Epoch - and Spectrum - of Conflict", in *In Athena's Camp: Preparing for Conflict in the Information Age*, (Santa Monica: RAND, National Defence Research Institute, 1997), p3. Parenthesis in original.

²⁵ Arthur L. Money, Asst. Sec. of Defence (C3I), US DoD, "Report on Network-Centric Warfare - Sense of Report", Submitted to the US Congress in partial fulfillment of Sec. 934 of the Defence Authorization Act for FY 01 (Public Law 106-398), March 2001, p 5. Available at http://www.dod.mil/nii/NCW/ncw_sense.pdf. Last accessed on July 28, 2004.

²⁶ The operational stance of 'full spectrum dominance' is a case in point. See, for example, Jim Garamone, "Joint Vision 2020 emphasizes Full Spectrum Dominance", *Defence Link*, June 2000. Available at http://www.defenselink.mil/news/Jun2000/n06022000_20006025.html. Last accessed on Jan, 2008

²⁷ Arquilla and Ronfeldt, "The Advent of Netwar (Revisited)" in *Networks and Netwars*, 2001, p 6

²⁸ This, in NCW terms, is understood and described in terms of Effects-based Operations (EBOs), which are defined as: "coordinated sets of actions on objectives defined in terms of human behavior in multiple dimensions and on multiple levels, and measures their successes in terms of the behavior produced." Edward Smith, *Effects Based Operations - Applying Network Centric Warfare in Peace, Crisis, and War*, (Washington, DC: US DoD, CCRP, 2003), p xv.

War, the more radical theorists of NCW suggest, *is battlespace* and we are increasingly becoming familiarized with it in terms of exponentially proliferating ensembles of networked computers processing data at petaflop speed.²⁹ These, often seamlessly - when coupled with a myriad of cross-spectrum data/information-acquisition sensors - act as receptacles and transmitters of information operating at the speed of light.³⁰ In such 'technological valhallas', the traditional indicators of 'speed' and 'time' tend to collapse onto each other thus rendering the more familiar 'gaps' between the strategist's projections, the general's map table, and 'the battle' increasingly obsolete. *In-battlespace*, the 'hunter' and the 'hunted', the 'here' and the 'there' and, the 'actual' and the 'virtual' are experienced and projected as complex-becomings, that is to say, they are always *becoming in-distinguishable*.³¹ This goes some way to explain why some military theorists and scholars of strategy and war are urging for the abandoning of the paradigm in which "...we still persist in studying a type of warfare that no longer exists and that we shall never fight again."³² Indeed, others - like Szafranski - when discussing 'war' in the Age of Information, even call for

²⁹ Petaflop speed is the point where time is measured at femtoseconds, the shortest possible events known to science. At petaflop speeds, a computer would be able to process enciphered/ encrypted data with a quadrillion solutions in the proverbial 'wink of an eye'. See James Bamford, *Body of Secrets – How America's NSA and Britain's GCHQ Eavesdrop on the World*, (London, UK: Arrow Books, 2002) p 607-608.

³⁰ See, for example, the Global Information Grid Project residing within the US National Security Agency. See <http://www.nsa.gov/ia/industry/gig.cfm>

³¹ This is the hallmark of COIN or Counter-Insurgency Operations as a 'condition of war'. See, for example, Col. Thomas X. Hammes, USMC, *The Sling and The Stone: On War in the 21st Century*, (St. Paul, MN: Zenith Press, 2006). See also Rod Thornton, *Asymmetric Warfare: Threat and Response in the Twenty-First Century*, (Cambridge, UK: Polity Press, 2007)

³² Attributed to Roger Trinquier, *Modern Warfare* (1961), quoted in Robert L. Leonard, *The Principles of War for the Information Age*, (New York, NY: Presido Press, 1998), p 1. See also Alberts, Gartska, Stein, *Network Centric Warfare – Developing and Leveraging Information Superiority*, (Washington, DC: US DoD, CCRP, 2003), p1; Edward A. Smith, *Effects based Operations – Applying Network Centric Warfare in Peace, Crisis, and War*, (Washington, DC: US DoD, CCRP, 2003), p xiii.

different ‘modes of response’ to what he suggests are the emerging ‘epistemological challenges’ that modern-day governments and societies have to contend with.³³ It is, therefore, not uncommon to hear reiterated that War - *battlespace* - is the most complex phenomenon of the 21st Century and, as such, it points to the emergence/ production of a new ‘strategic commons’.³⁴

In the literature on modern war and strategy it is common to find these two views generally opposing each other. It is worth pointing out, however, that this opposition is also rather deceptive at a couple of interesting levels. Thus, for example, a closer look tells us that despite the sometimes caustic and animated debates that rage between them, these supposedly differing views actually share a common imagination wherein war, as a phenomenon, remains an affair of the State and is necessarily conceived of, contextualized within, and expressed as a political event.³⁵ In this, the martial imagination of the proponents of the NCW

³³ Mentioned in Arquilla and Ronfeldt, “The Advent of Netwar (Revisited)” in *Networks and Netwars*, 2001, p 14

³⁴ Arthur L. Money, Asst. Sec. of Defence (C31), US DoD, “Report on Network-Centric Warfare – Sense of Report”, Submitted to the US Congress in partial fulfillment of Sec. 934 of the Defence Authorization Act for FY 01 (Public Law 106-398), March 2001, p 7. Available at http://www.dod.mil/nii/NCW/ncw_sense.pdf. Last accessed on July 28, 2004

³⁵ Note: There is a large body of literature that has problematized war in terms of when, why, and how war originated in humans. This problematization, as Gat points out, “draws...information and insight from a wide range of scholarly disciplines and branches of knowledge, most notably: animal behaviour (ethology), evolutionary theory, evolutionary psychology, anthropology, archaeology, history, historical sociology, and political science.” Azar Gat, *War in Human Civilization*, (Oxford: Oxford Univ. Press, 2006), p ix. The present study acknowledges this eclectic spread of interests as is reflected by the number of theories of war. On another, but related note, it should also be flagged that some Clausewitzian scholars, like Bassford, for example, may accuse this study of mis-reading, indeed often conflating, the nuances involved between the words ‘policy’ and ‘politics’, and even of the word ‘continuation’, which is how the German word Clausewitz used, *Fortsetzung*, is generally translated as. Yet we find that Bassford, for example, after informing us that *Fortsetzung* is literally translated as ‘setting forth’ (the Heideggerian overtones in this translation will not be missed), claiming that “War remains politics in all its complexity, with the added element of violence. The non-rational and completely irrational forces that affect and often drive politics have the same impact on war. Violence is not just another ingredient in the political stew, however. Like a powerful spice, it affects the flavor of every other component.” See Christopher Bassford, “John Keegan

thesis, and that of their conservative counterparts, remains captive to the State's ability (in the context of the political) to imagine, articulate, own, control, and manage, *being martial*.³⁶ And, secondly, these two points of view also agree on the *experience* of martial corporeality – that is to say, they share the same experience of war. Thus, it could be said, when considered in the context of the ubiquitous emergence of ICTs in the domain of war and its conduct, that if there is indeed an epistemic shift - as some of the NCW theorists suggest is the case - then it is at best limited to one that points to a transformation in the understanding of the *conduct of war* in terms of mass, force and speed, to one that prioritizes information-flows, grids and meshes, and effects-based operations.

Even a cursory glance at a sample of the (open-source) literature dealing with war, strategy, military theory, the network-centric approach to war, and the RMA thesis confirms this. It suggests that despite acknowledging the influence of ICTs on what we have traditionally understood as war, we remain beholden to a 'human, all too human' understanding of war-as-such.³⁷ Thus, like much of the prevailing post-human discourse in which man has remained "at the center of its narratives [as] the one who becomes and the one who owns these becomings..."³⁸

and the Grand Tradition of Trashing Clausewitz: A Polemic", *War and History*, v.1, no.3 (November 1994). If Bassford had used 'war' and 'politics' interchangeably, one would tend to agree, but perhaps not exactly in the way Bassford may have intended it. As we will see, like Clausewitz, Bassford is also in proximity with an immanence, which – unlike Clausewitz - Bassford, chooses to express as 'violence'.

³⁶ Note that the State or 'the political', are mere proxies of Reason – as we will see below.

³⁷ See, for example, Quincy Wright, *A Study of War*, (Chicago: Univ. of Chicago Press, 1964); Azar Gat, *War in Human Civilization*, 2006; Colin S. Gray, *Another Bloody Century: Future War*, (London: Weidenfeld & Nicholson, 2005); Geoffrey Blainey, *The Causes of War*, 3rd Ed., (New York: The Free Press, 1988)

³⁸ Amy Weinstone, *Avatar Bodies: A Tantra for Posthumanism*, (Minneapolis: Univ. of Minnesota Press, 2004), p17

'war', from at least the 17th Century onwards, has essentially remained within a particular philosophico-political architectonic despite the recent 'turn' (*Kehre*)³⁹ to the inhuman, that is to say, to the digital, to the networked, and to the information-led.

Given this, therefore, we should not be surprised when we read that as...

...The First Company of the 12th Armored Cavalry Regiment prepared for virtual battle...[A]t the Combined Arms and Tactical Training Center (CATTC) in Fort Knox, KY., the troops prepared to enter SIMNET - a virtual war delivered via network links. With the almost Disney-like mimicry typical of SIMNET operations, the warriors were briefed in an actual field command-post...The attacking enemy would advance from west...But the exact enemy tactics were obscured by the fog of war...Bravo Platoon was the first to spot the approaching enemy scouts...Bravo Platoon saw red and yellow impacts spike their hillside landscape, and a vicious crump of high explosives burst from the Perceptronics audio simulators. As the engagement proceeded, dead men began to show up in the CATTC video classroom. Inside the simulators, their vision blocks had gone suddenly blank with the onset of virtual death. Here in CATTC's virtual Valhalla, however, a large Electrohome video display unit showed a comprehensive overhead map of the entire battlefield...[T]he dead tank crews filed into the classroom and gazed upon the battlefield from a heavenly perspective. [T]hey began to talk. They weren't talking about pixels, polygons, baud-rates, Ethernet lines, or network architecture. They were talking exclusively about fields of fire, and fall-back positions, and radio traffic and indirect artillery strikes. They weren't discussing "virtual reality" or anything akin to it. These soldiers were talking war.⁴⁰

³⁹ Gregory Fried, *Heidegger's Pólemos – From Being to Politics*, (Yale: Yale Univ. Press, 2000), p 75

⁴⁰ "War is Virtual Hell", Bruce Sterling, in *Wired Magazine*, Issue 1.01, March-April 1993. Available at http://www.wired.com/wired/archive/1.01/virhell_pr.html. Last Accessed on April 02, 2004.

This 'war' that the soldiers at the CATTC were engaging in, albeit 'virtually', and the *conduct* (i.e., military theory as a 'concept of operations') of which that they were discussing has a lineage that Gat summarizes well. He says...

...[T]he very idea that something called military theory existed – or rather was very much lacking – was the product of the intellectual gospel of the Enlightenment...[M]odern views on the nature of military theory originated from the most intensely philosophical period in European history. They were formed in response to the all-pervasive, epoch-making, and bitterly conflicting intellectual climates of the Enlightenment on the one hand, and the Counter-Enlightenment or Romanticism on the other.⁴¹

Others, like Victor Hanson Davis - though he traces this lineage back to Ancient Greece - agree. Thus, it is asserted,

the West has achieved military dominance in a variety of ways that transcend mere superiority in weapons...the Western way of war is so lethal precisely because...Western armies often fight with and for a sense of legal freedom....Because free inquiry and rationalism are Western trademarks...[which allowed]...over time...the resiliency of the Western system of war [to] prevail...⁴² (my emphasis)

Further, Davis suggests...

...throughout the long evolution of Western warfare there has existed a more or less common core of practices that reappears generation after generation,

⁴¹ Azar Gat, *A History of Military Thought – From the Enlightenment to the Cold War*, (Oxford, UK: Oxford University Press, 2001), p269.

⁴² Victor Hanson Davis, *Culture and Carnage – Landmark Battles in the Rise of Western Power*, (New York, NY: Anchor Books, 2001) p21-23

sometimes piece-meal, at other times in a nearly holistic fashion, which explains why the history of warfare is so often the brutal history of Western victory – and why today deadly Western armies have little to fear from any force other than themselves.⁴³

It should, therefore, not be surprising that despite the progressive technologization of the conduct of war (digitization of war) and the preoccupation with uncertainty (the efforts to address the ‘friction’ and ‘fog’ of war by incorporating the complexity and non-linear sciences, chaos theory, etc., collectively the ‘new sciences’),⁴⁴ the so-called radical transformations in military affairs described by the visionaries of the NCW project also betray a strong fealty to an *a priori* organizing principle. This principle, in light of Davis’ observations as quoted above, is suggestive of nothing less than a ‘turn’ to Reason (*in extremis* to a *universal mathesis*)⁴⁵ and, in this sense, it faithfully follows the lineage of martial thought since the Age of Enlightenment.

⁴³ Ibid p 24.

⁴⁴ See, for example, James Moffat, *Complexity Theory and Network Centric Warfare*, (Washington, DC: CCRP, DoD, 2003); Tom Czerwinski, *Coping with the Bounds: Speculations on Nonlinearity in Military Affairs*, (Washington, DC: CCRP, DoD, 1998); Edward Smith, *Complexity, Networking, and Effects Based Approaches to Operations*, (Washington, DC: CCRP, DoD, 2006)

⁴⁵ Witold Marciszewski, "The principle of comprehension as a present-day contribution to *mathesis universalis*," *Philosophia Naturalis* 21: 523-537 (1984). pp. 525-526.. See also, Stephen Gaukroger, *Descartes’ System of natural Philosophy*, (Cambridge: Cambridge University Press, 2002), p 8. Note that Descartes specifically referred to ‘algebra’ as a ‘universal mathesis’ (universal mathematics) for it underlay both arithmetic and geometry. More fundamentally, Descartes was able to recognize a ‘universal method’ that underwrote such a ‘universal mathematics’. Descartes described this ‘method’ in his *Regulae*. In this study, ‘universal mathesis’ is invoked not in the sense of a particular universal mathematics, but as the ‘methodology’ by which an as complete as possible account of the natural and physical world can be given expression. See also Paul Davies, *Effects-based Operations: A Grand Challenge for the Analytical Community*, (Santa Monica, CA: RAND, 2001), MR-1477-USJFCOM/AF. P 7 (Online version) Available at http://www.rand.org/pubs/monograph_reports/MR1477/. Last accessed on August 28, 2006. It is interesting to note that Davies acknowledges the ‘philosophical’ discussions that surround the EBO debate and recognizes the reasons for this. However, he is equally determined to reduce the philosophical challenges presented by the EBO concept into analytical models, which is amply reflected in the title of his work.

NCW: So, where is the 'beef'?

What distinguishes the more far-thinking NCW theorists – some of whom we will encounter during the course of this study - from their traditional counterparts, however, is their insistence on recognizing and responding to a transformation in the strategic object of war, which has ramifications on not simply the 'conduct' of war, but on the phenomenon of war itself. Thus, when Admiral Cebrowski (USN), Libicki, Edwards, Arquilla and Ronfeldt⁴⁶ - who are among the leading theorists of Information Age warfare - claim that 'war' has suddenly gone 'digital', 'post-modern', 'post-human' or simply, 'new', we should be alert to the fact – without needing to contradict the 'realist' theorists of war in the Information Age and the more conservative geo-politically bound strategists and thinkers - that they may not simply be referring to a 'technological fix' - the deployment of advanced technologies in the conduct of war.⁴⁷ They may be pointing to, in Dillon's words, "a profound transformation of the very military phenomenality of our civilization."⁴⁸

Consider, for example, what the former US Secretary of Defence, Donald Rumsfeld, had to say. In the context of (military) 'force transformation', he observed: "...one...not only anticipates the future, but also seeks to create it."⁴⁹

⁴⁶ On a lighter note the resulting acronym is eye-catching, CLEAR

⁴⁷ See, for example, James Der Derian, *Virtuous War- Mapping the Military-Industrial-Media-Entertainment Network*, (Boulder, CO: Westview Press, 2001), p xix.

⁴⁸ Michael Dillon, "Intelligence Incarnate: Martial Corporeality in the Digital Age", *Body & Society*, 2003

⁴⁹ Office of Force Transformation (www.oft.osd.mil), *Elements of Defence Transformation*, 'Foreword', p 2 of PDF file. Available at

http://www.oft.osd.mil/library/library_files/document_383_ElementsOfTransformation_LR.pdf

Admiral Cebrowski, the former Director of the Office of Force Transformation (OFT) within the US Department of Defence, provides us with the context to Secretary Rumsfeld's words. He notes...

...Transformation is foremost a continuing process. It does not have an end point. *Transformation is meant to create or anticipate the future. Transformation is meant to deal with the co-evolution of concepts, processes, organizations and technology. Change in any one of these areas necessitates change in all. Transformation is meant to create new competitive areas and new competencies. Transformation is meant to identify, leverage and even create new underlying principles for the way things are done. Transformation is meant to identify and leverage new sources of power. The overall objective of these changes is simply—sustained...advantage in warfare...*⁵⁰ (my emphasis)

In this way, while Secretary Rumsfeld refers to the strategic ambition of the state – ‘to create futures’ - the Admiral, observing that “.....[T]ransformation is foremost a continuing process...It does not have an end point...”,⁵¹ provides the context – *transformation* – within which such strategic decisions are imagined and executed. It is worth quoting the Admiral in some detail:

...[T]hese are big jumps. These are the things that will change a military service, change the Department of Defense and maybe even change the world. *Some might argue that this is not what the DoD does, but they are wrong because the organization has already done this in the past. Global Positioning System satellites are a prime example. Its advent changed the military, changed the*

⁵⁰ “What is Transformation?”, VADM (Ret.) Arthur Cebrowski, Office of Force Transformation webpage available at http://www.oft.osd.mil/what_is_transformation.cfm. Last accessed on Sept. 07, 2006

⁵¹ Ibid.

department and changed civil society. Another is the American military's ability, led by the U.S. Army, to "own the night."⁵² (my emphasis)

Of course, even prior to this the US Secretary of Defence had publicly noted:

We need to change not only the capabilities at our disposal, but also how we think about war. All the hi-tech weapons in the world will not transform the US Armed Forces unless we transform the way we think, the way we train, the way we exercise and the way we fight.⁵³ (my emphasis)

Pursuant to this, as is well known, the Secretary of Defence created the Office of Force Transformation (OFT) – a strategic ensemble – which fulfills its charter by engaging in the ‘transformation’ of ‘force’ from a platform-centric mode to a network-centric one and in ‘devising’ the conditions and methods of its application.⁵⁴

A closer look at the words of the Secretary and the Admiral indicates that the strategic object of war identified by them reveals itself as a composite of two ‘lines of flight’ that are of interest to this study. First - the one that lends itself to some semblance of instrumentalization by the State – is the production, maintenance and expansion of strategic ensembles (‘futures’, the State, the

⁵² “What is Transformation?”, VADM (Ret.) Cebrowski, Office of Force Transformation webpage available at http://www.oft.osd.mil/what_is_transformation.cfm. Last accessed on Sept. 07, 2006

⁵³ Donald Rumsfeld, "Transforming the Military," *Foreign Affairs*, vol. 81, no. 3 (May/June 2002), p. 29; *Elements of Defence Transformation*, Office of Primary Responsibility, Director, Office of Force Transformation, Office of the Secretary of Defence, Washington, DC, 2004

⁵⁴ “Five Goals”, Office of Force Transformation, U.S. Dept. of Defence, http://www.oft.osd.mil/top_five_goals.cfm

political, NCW) or, as the diagram below suggests, of a potentially unstable matrix that links people, processes, organizations and technologies.

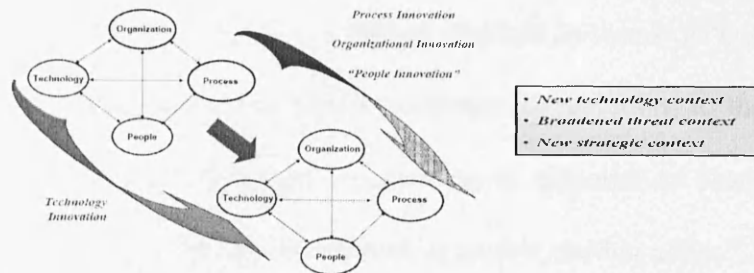


Figure 1: The People, Processes, Organizations, Technologies Matrix
 Source: John J. Gartska, Asst. Director: Concepts and Operations, "Warfighting and Innovation: Past, Present and Future", July 2004.⁵⁵

This, to all intents and purposes, constitutes the political object of war.

The second, however, is a more problematic one for it premises itself on what can best be described as a textural understanding of war,⁵⁶ which the Admiral, cryptically, expresses by noting that "*relocating the human on the battlefield could change everything.*"⁵⁷ The NCW theorists are themselves often at

⁵⁵ Available at

http://www.oft.osd.mil/initiatives/ncw/docs/Innovation_and_Experimentation_Presentation.pdf. See Slides 2 & 6. Last Accessed on June 23, 2007

⁵⁶ The etymology of the word 'texture' is instructive. "...c.1425, "network, structure," from M.Fr., from *L. textura* "web, texture, structure," from stem of *texere* "to weave," from PIE base **tek-* "to make" (cf. *Skt. taksati* "he fashions, constructs," *taksan* "carpenter;" *Avestan taša* "ax, hatchet," *thwaxš-* "be busy;" *O.Pers. taxš-* "be active;" *Gk. tekton* "carpenter," *tekhne* "art;" *O.C.S. tesla* "ax, hatchet;" *Lith. tasau* "to carve;" *O.Ir. tal* "cooper's ax;" *O.H.G. dahs*, *Ger. Dachs* "badger," lit. "builder;" *Hittite taksh-* "to join, unite, build"). Meaning "structural character" is recorded from 1660. See <http://www.etymonline.com/index.php?term=texture>.

⁵⁷ "What is Transformation?", VADM (Ret.) Cebrowski, Office of Force Transformation webpage available at http://www.oft.osd.mil/what_is_transformation.cfm. Last accessed on Sept. 07, 2006 (emphasis mine). Note: The Admiral specifically refers to information energy. Etymologically, the Admiral's choice of the word 'energy' is revealing. "1599, from M.Fr. *energie*, from L.L. *energia*, from Gk. *energeia* "activity, operation," from *energos* "active, working," from *en-* "at" + *ergon* "work". See <http://www.etymonline.com/index.php?search=energy&searchmode=none>

pains to express this (and in some cases to even come to grips with it). Thus we find leading NCW theorists such as Alberts, Gartska and Stein - invoking The Santa Fe Institute's research into complex adaptive systems – attempting to articulate their understanding of war and its conduct in terms of 'coevolution'.⁵⁸ In their words, they “apply this logical construct [coevolution] to the domain of warfare where *concepts of operation* coevolve in response to changes in their ecosystem.”⁵⁹ Admiral Cebrowski, expanding on this, further adds: “...combining new technology with new operational concepts can have [a] profound impact on how information *energy* can be applied on the battlefield...”⁶⁰ The Admiral's cryptic words would thus suggest that war (*battlespace*), wherein politico-strategic ambitions and object(ive)s take a form and shape is an environment-in-transformation or an *environment that is always becoming*. Taken together, the Secretary of Defence and the Admiral thus paint a landscape of war that while accounting for the famed Clausewitzian trinity of war – blind hatred, chance and politics – does not remain hostage to it.

⁵⁸ Mitchell Waldrop, *Complexity: The Emerging Science at the Edge of Chaos*, (New York: Simon and Schuster, 1992), pp 259-260. A potent example of the operationalization of this is the planning for and development of 'robotic bugs'. See “Robotic Bugs to invade battlefield”, in *Times of India*, May 05, 2008. Available at http://timesofindia.indiatimes.com/HealthSci/Robotic_bugs_to_invalidate_battlefield/articleshow/3010227.cms. Last accessed on May 05, 2008. See also, “\$160 Billion Robotic Army Network Passes First Big Test. Kinda.”, in *Wired*, May 04, 2008. Available at http://www.wired.com/politics/security/news/2008/04/robots_army

⁵⁹ Alberts, Gartska Stein, *Network-Centric Warfare: Developing and Leveraging Information Superiority*, (Washington, DC: US Dept. of Defence, CCRP, 2003), pp 21-22. My emphasis.

⁶⁰ “What is Transformation?”, VADM (Ret.) Cebrowski, Office of Force Transformation webpage available at http://www.oft.osd.mil/what_is_transformation.cfm. Last accessed on Sept. 07, 2006 (emphasis mine). Note: The Admiral specifically refers to information energy. Etymologically, the Admiral's choice of 'energy' is revealing. “1599, from M.Fr. energie, from L.L. energia, from Gk. energia "activity, operation," from energos "active, working," from en- "at" + ergon "work". See <http://www.etymonline.com/index.php?search=energy&searchmode=none>

In the case of NCW, as we have seen, war (*battlespace*) manifests itself in and as, among other things, the exponential growth of low-cost, COTS/ open-source-ware-based, multi-cored parallel processor-driven, neural and AI-networked computer systems, which rapidly, unexpectedly, subtly, abruptly infiltrate/ embed/ assimilate themselves with/in the ‘machinery of war’. In this way, the argument runs, not only do they evolve as ‘dependency-structures’, they also transform the traditional modes of war by introducing newer considerations in battle which, more often than not, contradict and supplant the ways by which war has hitherto been conducted. Thus, if we are to take the theorizations of the NCW proponents seriously, we would have to accept their claim that the exponential evolution and proliferation of technical instruments – like the ones mentioned above - must also contribute to a transformation of and ‘in’ our thinking of War-as-such. In this context, recall that in around 2002, Secretary Rumsfeld had already cautioned that perhaps we may ‘need to change not only the capabilities at our disposal, *but also how we think about war*’.

By emphasizing on, among other things, *transformation* and on the need *to be transformational*, Admiral Cebrowski thus reveals that *the strategic object of war within the NCW context is not simply about creating futures - by fabricating and deploying strategic ensembles within a specific context - it is also about (re)producing, commanding, controlling and managing the context where/in such fabrications and deployments take place*. Thus the significance of the Admiral’s words: ‘...create new underlying principles for the way things are

done'. It is in this sense that the claims made by the enthusiasts of NCW - that war in the Information Age is 'new' - is, to some extent, justified for - since Clausewitz - this is arguably the first such attempt to transform the very understanding of war.⁶¹ Quite overtly then, these NCW thinkers are not simply predicting 'future war', but are also engaged in the designing and fashioning of our very imagination, understanding, and experience of war. In this way, it could be said, that the theorists of NCW are – inadvertently or otherwise – sketching out, that is to say, drawing a moving and morphing diagram of their notion of a post-human martial corporeality not simply for and in the Digital Age, but as the new and inescapable paradigm of martial corporeality in the emerging network societies of the Information Age. It is, therefore, not surprising that the NCW literature attests to the strategy of the OFT – a technological, hence, strategic ensemble – as one that will *implement* NCW as 'the theory of war for the Information Age' *and* as the organizing principle of *being martial*.⁶²

As we will see, however, this apparently startling transformation that is unfolding in the concept and experience of war has a lineage and, in this sense, is not strictly 'new' or even that revolutionary. To appreciate this, however, we will

⁶¹ It is possible to argue, as has been done, that technological developments, such as the introduction of the stirrup, the conoidal bullet, long-range air power, maneuver warfare theory, WMD, spacepower, precision-guided munitions, stealth capability, modular weapons-design, realtime sensing capability etc., have brought about radical changes, if only in retrospect to war. To a certain extent this point of view is valid, though we should note that the developments being emphasized on are more relevant to warfare, or the conduct of war.

⁶² For an interesting perspective of the OFT – in light of the recent rumours about its closure – see Christopher P. Cavas, "Pentagon may close Transformation Office – Helped establish innovative outlook to DoD challenges", *Defence News*, Aug. 28, 2006. Available at <http://www.oft.osd.mil/>. Also see Geoff Kein, "Office of Force Transformation Taking New Shape Inside DoD", *Defense Daily*, September 5, 2006. Available at www.oft.osd.mil/library/library_files/article_519_DEFENSE%20DAILY%20September%205%202006.doc. Last accessed on Jan., 2007.

have to look back at the influence of the Enlightenment-inspired ‘turn’ to Reason and to Kant and his Critiques of Reason and Judgment. Thus, for example, we could point to how Kant addressed the problem of Reason facing the challenge of its own legitimacy, particularly, in the form of Religion. Taking recourse to the argument of the antinomies and other such maneuvers, Kant’s critical attempt was to bring Religion to Reason. In this sense, Kant’s valiant effort was defensive, which succeeded but only in terms of keeping this antinomy of Reason at bay.⁶³ In the case of the NCW theorists, however, a viable argument is made which suggests that Reason - organizing around ICT-based dependency-structures - addresses the question of its own genesis successfully, albeit technologically. For the NCW theorists, as we will see, Reason points to its empirical materiality in technological terms, that is to say ‘recursively’, thereby pre-empting (by making irrelevant) the question of its genesis.⁶⁴ But there is a significant catch to this. While the assessments and pronouncements regarding NCW may appear as being radical and sometimes even ‘out of this world’, paradoxically, they also share a curious affinity to those espoused by the more conservative (some would say sober) assessments of theorists like Colin Gray - especially in their affirmation of

⁶³ Kant had identified a set of four antinomies: (1) the limitation of the universe in respect of space and time (2) the theory that the whole consists of indivisible atoms (whereas, in fact, none such exist) (3) the problem of freedom in relation to universal causality, and (4) the existence of a necessary being. His struggle with bringing religion with the limits of Reason was his attempt to solve the last antinomy, namely ‘the existence of a necessary being’.

⁶⁴ Recursion, in mathematics and computer science, is a method of defining functions in which the function being defined is applied within its own definition. The term is also used more generally to describe a process of repeating objects in a self-similar way. See Douglas R. Hofstadter, *Godel, Escher, Bach: An Eternal Golden Braid*, (New York, NY: Basic Books, 1999), particularly, Chapter 5. An early and more technical discussion on ‘recursion theory’ may be found in Kurt Godel, *On Formally Undecidable Propositions of Principia Mathematica and Related Systems*, (London, UK: Dover Publications, 1992)

the eternal-ness of the phenomenality of war.⁶⁵ Thus, one is prompted to ask – is the very phenomenality of war indeed exhausted? Does NCW strategize the last of that what may have been ‘standing reserve’ in War?

Without denying any of the above - indeed by taking much of it quite seriously - this study will argue that while the transformation underway – understood at its best as a not-so-speculative account of martial corporeality (that is to say, of war) in the age of modern technics - may seem to some to be frightfully in excess of our thanato-political imaginations, it is actually far more excessive than that - albeit differently. As we will see, the phenomenality of war, far from being exhausted, retains its vitality. It retains its *intensiveness*.⁶⁶

On what is at stake

The US Chairman of the Joint Chiefs of Staff, General Peter Pace, USMC, in his assessment of the QDR 2006, remarked that – “[A]ny attempt to predict the future security environment of 2025 is inherently difficult...Given the dynamics of change over time, we must develop a mix of agile and flexible capabilities to

⁶⁵ See, for example, Colin Gray, *Modern Strategy*, (1999); *Another Bloody Century: Future War*, (2005); Michael Howard, *Causes of War*, (Harvard, MA: Harvard Univ. Press, 1983); Hew Strachan & Andreas Herberg-Rothe Ed. *Clausewitz in the Twenty-First Century*, (Oxford: OUP, 2007), pp 1-13

⁶⁶ “Intensive: in basic scientific terms, the characteristic of properties of thermodynamics systems...which when driven past a critical threshold trigger a change in the quality of the system...[O]ne can call ‘intensive’ any linked set of rates of changes in assemblages or ‘rhizomatic multiplicities’...” Bonta & Protevi, *Deleuze and Geophilosophy: A Guide and Glossary*, (Edinburgh: Edinburgh Univ. Press, 2004), p 101

mitigate uncertainty.”⁶⁷ He also noted that the QDR acknowledges that “victory in this long war depends on information, perception, and how and what we communicate as much as [the] application of kinetic effects.”⁶⁸ While General Pace’s immediate reference is to the ‘war on terrorism’, the invocation of ‘uncertainty and indeterminacy’ that permeates his ‘assessment’ points to the increasing recognition that ‘victory’ is as ‘transient’ as the other elements that constitute this emerging condition. This is a distinct shift in how global militaries, particularly the US military and defence establishment, have begun to perceive the emerging ‘strategic’ environment as compared to the hitherto notion of a ‘long peace’ and a rationally predictable security calculus like the now fading Cold War strategic paradigm. The 2006 QDR describes this shift in the following terms:

- From a peacetime tempo - to a wartime sense of urgency
- From a time of reasonable predictability - to an era of surprise and uncertainty
- From single-focused threats - to complex challenges
- From nation-state threats - to decentralised network threats
- From conducting war against nations - to conducting war in countries we are not at war with (safe havens)
- From large institutional forces (tail) - to more powerful operational capabilities (teeth).⁶⁹

⁶⁷ US Department of Defence, *Quadrennial Defense Review Report, 2006*, Chairman’s Assessment, p A4 of PDF version. Available at <http://www.defenselink.mil/qdr/report/Report20060203.pdf>. Last accessed on Jan 2007.

⁶⁸ Ibid

⁶⁹ Ibid. Note that this assessment in the QDR is not simply some intellectual construct. Thus, for example, W. James Woolsey, President Clinton’s nominee for the CIA Directorship, in his Senate confirmation hearing said: “Yes, we have slain a dragon...but now we live in a jungle filled with poisonous snakes. And in many ways, the dragon was easier to keep track of.” See Neil A. Lewis, “Bigger Battle Expected on Spy Budget,” *New York Times*, Feb 01, 1993. Further, the attacks on the CIA HQ at Langley and the World

This resonates powerfully with Arquilla and Ronfeldt's propositions regarding 'the new epoch of conflict' in the Information Age. *But what is significant about this summary presented in the QDR 2006, however, is that perhaps for the first time in the history of the modern military, the military machine – a state-owned and run apparatus – is thinking of and, in some cases, even operating outside the orbit of the State. Thus, the QDR 2006 speaks of, among other things, the shift “from nation-state threats – to decentralized network threats”.* This would suggest at least one of two things: (1) either the connection between war and the political is becoming increasingly tenuous, or (2) perhaps, when considered in ordinary terms, war “...is not an instrument of any kind, least of all a political one.”⁷⁰

It is in this context that this study asks – in tandem with Nietzsche (and Land) - 'what if war in its most extravagant, uninhibited and ordinary sense does not serve the State'? What if the otherness “of war to the political” is like that “of the uncircumscribed to the field of its potential circumscription”?⁷¹ What if, like the uncircumscribed, war is 'absolutely' immanent, which is to say that not only is it immanent to particular circumscriptions but, more importantly, it is immanent

Trade Center in New York City, in Jan and Feb 1993 respectively were very quickly understood by the Counterterrorism Security Group (CSG) as not fitting “the traditional pattern of terrorist activity. The Sunni radicals behind them could not be tied to any specific country...the freelancers did not seem to have a political agenda. They also did not need any states to sponsor them.” See Timothy Naftali, *Blind Spot: The Secret History of American Terrorism*, (New York: Basic Books, 2006), pp 235, 239.

⁷⁰ Nick Land, *The Thirst for Annihilation – George Bataille and Virulent Nihilism*, (London: Routledge, 1992), p 150

⁷¹ *Ibid*

to itself?⁷² And lastly, what if, unlike the more common *extensive*, that is to say, Clausewitzian notions of war, whose ‘energy’ - as Land points out in the context of ‘civilization’ – is *Thanatos*, war - *Intensive War* - is characterized by ‘a metamorphosis of forces; their relative decomposition from strategic ensembles and purposes, towards tactical fragments and initiatives’?

Secondarily, though they are not addressed in a specific and detailed manner in this study, interesting questions such as the following may also be posed: Under such conditions of assembling/ disassembling, where the mode of operability is purely tactical and fragmentary, what does ‘to organize’ and ‘to be organized’ mean? Further, specifically in the context of applied military theory, by drawing a diagram of the battlespace in terms of tactical and fragmentary initiatives, what is the ‘face of battle’ and, by extension, of war that emerges as a consequence?

It should also be mentioned that by posing these questions, this study remains cognizant of the implications of the responses that they may elicit for these would pertain to nothing less than - “How do we conceive of being [and more importantly, *becoming*] when the differential-space between the organic and the machinic [in a limited sense, the technological] dissolves and when reality is

⁷² In his final essay entitled *Immanence: A Life*, Deleuze wrote: "It is only when immanence is no longer immanence to anything other than itself that we can speak of a plane of immanence [p.27]." Also, "Absolute immanence is in itself: it is not in something, *to* something; it does not depend on an object or belong to a subject. [...] When the subject or the object falling outside the plane of immanence is taken as a universal subject or as any object to which immanence is attributed, [...] immanence is distorted, for it then finds itself enclosed in the transcendent." See Gilles Deleuze, *Pure Immanence – Essays on A Life*, Trans. Anne Boyman, Intro, John Rajchman, (New York: Zone Books, 2001), pp 26-27

folded into virtuality, when the body morphs, and computer networks suck knowledge into a digital monad? How do we think if thinking is chaotic at its core?"⁷³

Locating the Study

In the context of the rapid and multifarious expansion of the NCW project, questions like these are, at the very least, disturbing. The extent of this disturbance is potently evident when, for example, we consider the notion of 'evil-ness' traditionally ascribed to war. Thus, for example, Land graphically describes war as a "... loathsome vampire trailing hideous carnage, the swamp breeding ground of vermin and plague. Whatever its terrible allure, there is nothing more profoundly degrading than war. It alone is truly *base*..."⁷⁴

When considered in the context of *Intensive War*, however, the validity of these judgments is conditional on the fact that 'War' is 'evil' or 'terrifying' only when understood as a *ge-stell*, that is to say as an 'enframing'/ circumscription - an instrument(ation) - crafted and wielded, ultimately, by or in the name of *Thanatos*. This involves limiting the uncircumscribed-ness of *Intensive War* not simply to a circumscription by the political but, at a fundamental level, to a circumscription by *Thanatos* (or a specific understanding of him). For, let us not

⁷³ Erik Davis, *The Witch's Flight*, A Review of Deleuze & Guattari's *What Is Philosophy?* Available at <http://www.techgnosis.com/dg.html>. Last accessed on Aug. 08, 2006. A version of this piece appeared in the *VLS*, Summer, 1994.

⁷⁴ Land, *The Thirst For Annihilation*, p 150

forget, it is his (*Thanatos*) intervention that allows for the contextualization of 'evilness' in the form of vampires (un-dead), carnage (death and destruction), vermin and plague ('death-threats'). Even in the more esoteric literature of NCW, which claim a maximally digitized and coded world, the ultimate challenge is to hold *Thanatos* at bay. Thus, it is not surprising that the proponents of NCW would insist on *ge-stelling* (enframe-ing)⁷⁵ '*Intensive War*' extensively - that is to say, as a thanato-political instrument, where the political is not simply the ultimate guarantee against *Thanatos*, but also an expression of an optimal organization of the technical. By these standards, however, *Intensive War* remains 'beyond good and evil.'

Nevertheless, it would be foolhardy for this study to pretend or even suggest that the 'base' notion traditionally associated with *extensive war* – the one that Land refers to as being 'evil' – has not and is not well recognized by the philosophers and theorists of war and the military – past and present. What this study notes, however, is that the NCW project, at least theoretically, by subjecting change to 'calculative reason' promises to progressively 're-grade' the de-grading baseness of *extensive war*.⁷⁶ Again, the evidence is not hard to find – note the rise and, increasingly ubiquitous, use of precision-guided weapons, mobile-profile targeting, bio-metric surveillance techniques/ technologies etc, which are geared

⁷⁵ Bernard Stiegler, *Technics and Time, 1 – The Fault of Epimetheus*, Trans. Beardsworth & Collins, (Stanford: Stanford Univ. Press, 1998), pp 6-7

⁷⁶ Coker refers to this as the 're-enchantment' of war. See, Christopher Coker, *The Future of War – The Re-Enchantment of War in the Twenty-First Century*, (Oxford: Blackwell Publishing, 2004). See also his *Waging War Without Warriors? The Changing Culture of Military Conflict*, IISS Studies in International Security, (Boulder, CO: Lynne Rienner Publishers, 2002).

to, at least in theory, reduce the ‘collateral damage’ – Land’s ‘base-ness’ - of war.⁷⁷ Seen in this light, the ‘tendency to excess’ evident in the unfolding of the NCW-project should not be startling for, as suggested above, it is nothing less than an ‘eternally recurring’ seduction of *Thanatos* by the technological.

This ambition/ desire - to deliver on the ‘promise’ of ‘re-grading’ the degrading baseness of *extensive war* with/in a mesh of calculative and computable reason – results in a ‘striving’ to irrevocably break free from ‘the (thanato)-political’⁷⁸ by establishing a condition of ‘suspended animation’⁷⁹ wherein, to paraphrase Libicki’s words, ‘a fine enough mesh can catch everything.’⁸⁰ NCW, in this emerging form, may thus be described in D&G’s eerie words as a...

...worldwide war machine, which in a way reissues from the States, displays two successive figures...the first that of fascism, which makes war an unlimited movement with no other aim than itself, and the second...the war machine reforms smooth space that now claims to control, to surround the entire earth. Total war is surpassed, toward a form of peace more terrifying still.⁸¹

⁷⁷ UK Identity Scheme and the US Immigration System are relevant examples. Also the recent wave of precision-guided weapons, fine resolution sensors mounted on platforms such as the Global Hawk (the name of the platform is in itself instructive) all point to the desire to reduce the ‘collateral damage’ in war..

⁷⁸ For an account of the ‘thanato-political’ and of biopolitics, see Michel Foucault, *Society Must be Defended*, (London: Allen Lane, 2003). See also Michel Foucault, *The Will to Knowledge: History of Sexuality Vol I.*, (London: Penguin Books, 1998). See also, Razac and Kneight, *Barbed Wire – A Political History*, (London: W. W. Norton & Company, 2003), who offers a corrective to Foucault, for it shows that modern biopolitics is often intricately tied to a thanatopolitics, the politics of extermination and death. The metric, of course, has morphed from that of ‘race’ to that of ‘productivity’. For a theoretically intensive account of ‘the barbed wire’, see Reviel Netz, *Barbed Wire – An Ecology of Modernity*, (Wesleyan University Press, 2004)

⁷⁹ Discussions with Dr. Paolo Palladino (Dept. of History, Lancaster University) in the context of a thesis centering on “Life and War in the Age of Information” (2006)

⁸⁰ Martin Libicki, *The Mesh and the Net: Speculations on Armed Conflict in a Time of Free Silicon*, (Washington, DC: National Defence University), pp 30-31

⁸¹ Deleuze & Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, (London: Continuum, 2003), p 421 (hereafter *ATP*)

While D&G's reference to 'the unlimited movement' of war to fascism is a cause for concern, and one which we will address later in the study, it will, for the moment, suffice for us to note that these twin Deleuzian figures – unlimited movement (animation) and the reformation of smooth space (suspension) - in NCW terms, co-constitute the self-organizing 'battlespace' and as such may be considered as being an *extensive* actualization of 'modern technics' as War.⁸² It should not, therefore, come as a surprise to us – given the increased focus on Clausewitz's 'fog of war' and on 'friction and complexity' by the NCW theorists⁸³ - that the *conduct* of war, in NCW terms, is less geared to *direct* command and control operations; rather, it is to *sense and respond to the localized pressures and reliefs of a fluid environment*.⁸⁴ In this way, arguably, NCW – as a concept of operations – directs our attention to the apparently distributive and dissipative nature of the net-centric machine of war which, in its benign condition, remains a state-owned and controlled apparatus.⁸⁵

⁸² This, of course, is premised on the assessment which, in Ansell Pearson's words, can be summarized as follows: "...[a] collapsing of *bios* and *technos* into each other is not only politically naive, producing a completely reified grand narrative of technology as the true agent and telos of natural and (in)human history; it also restricts technics to anthropos..." See Keith Ansell Pearson, "Viroid Life: On Machines, Technics and Evolution", in *Deleuze and Philosophy: The Difference Engineer*, Ed. Keith Ansell-Pearson, (London: Routledge, 1977), p 180.

⁸³ See, for example, James Moffat, *Complexity Theory and Network Centric Warfare*, (Washington, DC: CCRP, DoD, 2003); For a discussion on 'chaos' in strategy and war in the historical context, see Colin S. Gray, *Strategy for Chaos – Revolutions in Military Affairs and The Evidence of History*, (London: Frank Cass, 2003)

⁸⁴ For an account of the various 'collective consciousness' models in the battlespace of NCW, see Alberts, Gartska, Stein, *Network Centric Warfare – Developing and Leveraging Information Superiority*, (Washington, DC: CCRP, DoD, 2003), particularly the chapter on "Information Age Organizations".

⁸⁵ Related to this is the recent round of discussions between the Government of India (GOI) and Research in Motion (RIM), the Canadian provider of the popular Blackberry service. In brief, the discussions centered on the ability of the GOI to access the Canada-based servers of RIM. The GOI's argument is that information in these servers – when applicable to traffic originating and ending in India on the Blackberry network – is a matter of national security and thus it needs continual, unlimited, and unrestricted access to them. Naturally, RIM has objected and the matter even escalated to the level where the GOI made an overt threat to shut down RIM's Blackberry service in India. What this unfolding situation may be read as is the

Equally, we should also not fail to recognize that the NCW project - which is being lent a consistency by an evolving set of common-standards *regimes*⁸⁶ - displays a countervailing 'tendency to organize' - that is to say, to contingently strategize - in terms of 'capability' and 'efficiency'. In this latter form, 'battlespace' produced by and for NCW, in Buchanan's words, "effectively subsumes the state, making it just one of its many moving parts."⁸⁷ Thus, it can be argued that NCW is nothing less than a Deleuzian 'war-machine' that has run amuck and one "that takes peace as its object"⁸⁸ which, as the more astute readers of Clausewitz will have no trouble in recognizing as the post-modern avatar of Absolute War. In this way, the 'ideal' NCW project - as a global war-machine - reveals its potential as a post-political phenomenon.⁸⁹

Given this, the theories and doctrines of NCW - especially when considered in terms of their actualization, operationalization and deployment - understandably reflect an unbearable tension caused by the 'tendency to excess' and the 'tendency to organize'. NCW's relation to the political thus imposes on it a tension, which manifests itself as a performative contradiction. We should be careful to note that this fate of NCW is underwritten by its being associated with and as a strategy of the State and, as such, is more of an insight into the strategy

attempt of a 'strategic ensemble' represented by the GOI to exercise control over a 'technology' in the name of 'national security'.

⁸⁶ See, for example, Martin Libicki, *Standards - The Rough Road to the Common Byte*, The Center For Advanced Concepts and Technologies, (Washington, DC: National Defence University, 1995)

⁸⁷ Ian Buchanan, "Treatise on Militarism", in *Deleuze and the Contemporary World*, Ed, Buchanan & Parr, (Edinburgh: Edinburgh Univ. Press, 2006), p 31

⁸⁸ D&G, *ATP*, 1987, p 421.

⁸⁹ In D&G's terms, this is when the 'war-machine' eludes the capture of the State-apparatus and makes the state just one of its moving parts. For a fuller discussion of this see, Ian Buchanan, "Treatise on Militarism" in *Deleuze and the Contemporary World*, pp21-41.

of the State, rather than into the nature of NCW – ‘the thing-in-itself’. NCW, as a war-machine issuing from the State, thus attempts the impossible – to retain its structure as a strategic ensemble *and* to be a fragmentary mode of operability. While this upsets the operational (epistemological) strategy of the State in its issuance of NCW as a war-machine it does not, however, influence or change in anyway the transformational (ontological) strategy of NCW-as-such. Critically, the strategic object of NCW as war-machine - or, at least, of NCW as a mode of (martial) operability, in the ‘new epoch of conflict’ – while remaining in a state of ‘suspended animation’ - seeks to maintain its operational space in a condition of suspended animation.

From the above, it will be appreciated that our options for (re) considering war have now reached a fork. It is, as Ansell Pearson puts it, a ‘weird point in history’ where - when considered in the context of ICT-based dependency structures - the onto-thanato-politico architectonic of war (as we know of it) is increasingly proving insufficient to deal with the ‘unknown unknowns’. Simply put, it could be said that our imagination of war is falling short. One way to address this situation has been to increasingly focus on a biological, that is to say, the genetic, rationalization of war. Yet, this approach keeps at the center *bios* (in the form of genesis/ growth) and invites us to enframe war with the help of *Thanatos*. But this only serves to bring us back to the proverbial ‘square one’ of an anthropocentric, or at least a bio-centric, understanding of war-as-such. Similarly, it is suggested, when war is discussed in purely technological terms –

which involves among other things the collapsing of *bios* and *technos* into and onto each other – the outcome is generally ‘politically naive, producing a completely reified grand narrative of technology as the true agent and telos of natural and (in)human history.’ The matter does not end there. As Ansell-Pearson points out, ‘it also restricts technics to anthropos’, which brings us back to a techno-centric understanding of war that is only conceivable within an anthropocentric framework.⁹⁰

The question, of course, remains: How can such a program which purports to renegotiate the very imagination of war be initiated, let alone fulfilled? Would not such a re-articulation of war, indeed a re-conceptualization of war, lead us to the very edge of speculative theorizing – a seemingly abysmal portal into that which Hallward, as we shall soon see, refers to as a space ‘out of this world’? Furthermore, would it not invite the rancorous arguments against it such as the ones that had, by way of an example, ensued between Heidegger and Schopenhauer in the context of the discussion on the role and standing of the academy and its strategic importance to the State? While we will take up and examine in some detail some of the specific charges - which are also applicable to this study - originally laid by Hallward against Deleuze’s immanent philosophy in short order, a brief look at the pertinence and applicability of Land’s presentation of the Heidegger’s dismissal of Schopenhauer to this study is rewarding. It helps

⁹⁰ Keith Ansell Pearson, “Viroid Life: On Machines, Technics and Evolution”, in *Deleuze and Philosophy: The Difference Engineer*, p 180.

highlight at least some of the imperatives that have guided this study's approach to the 'problematization of war'.

Land informs us that what is interesting about the...

...crass dismissal of Schopenhauer's aesthetics in the first volume of Heidegger's Nietzsche Lectures....and...[those]...found in Introduction to Metaphysics, his Leibniz lectures...is not [the] argument, however rancorous, but the relation of mutual revulsion between the academy and small defiant fragment of its outside. Neither recognizes the legitimacy of the other's discourse; for the university considers its other to be incompetent, whilst the past of this other – admittedly a very small part – that has seized and learnt to manipulate the weaponry of philosophical strife, considers the voice of the university to be irremediably tainted by servility.⁹¹

Indeed, Schopenhauer himself, as Land points out, made mention of this servile nature of the university. He noted:

...the State has at all times interfered in the philosophical disputations of the universities and has taken sides, no matter whether it was a question of Realists or Nominalists, or Aristotelians and Ramists, Cartesians or Aristotelians, of Christian Wolff, Kant, Fichte, Hegel, or anything else.⁹²

This, when considered in light of the central point of interest to this study, which is war, makes the matter not simply relevant, but also imparts to it a sense of critical urgency.

⁹¹ Land, *The Thirst for Annihilation*, p 10-11

⁹² Arthur Schopenhauer, *Parerga and Paralipomena: Short Philosophical Essays*, Trans. E. J. Payne, (London: Oxford University Press, 2000), p 168.

The signature of the university's beholden-ness to the State is nowhere more evident than in those departments wherein, allegedly, a study and interrogation of 'war' takes place. Across continents, nested securely within the confines of the departments of Political Science (the irony of the term is not to be missed), institutes that pretend to engage in 'defence analysis', and programs that seemingly dedicate themselves to 'war studies', universities have done their best to stifle any dissent – any challenge – that seeks to re-problematize war. The matter is also not simply limited to this. Indeed, the university, bending to the will of the State, has further instituted the precise methodology by which such studies are encouraged. The procedure is fairly simple. A simplistic linear account of history, statistics, applied science, 'real-life accounts' (including manned and unmanned media footage) and third-person narratives form the raw materials of the 'war' that the university teaches. The State's heavy hand in this will not be missed. Thus, what is left to the student is the task of reading and re-reading canonical accounts of war, which are far removed from any possibility of being re-problematized/ refreshed. The iron walls that gird this bastion of the State's ultimate preserve – *to make/ wage war* - keep out any interrogation of war in fundamental conceptual terms, that is to say, they preclude any form of philosophically speculative activity with regard to 'war'. This is not simply an empty accusation being hurled at the State and its servant, the university. Even a cursory glance at the curriculum confirms this.

This tendency is even more evident in the study of NCW. Even in the realm of those arcane institutions like the RAND Corp. and the Command and Control Research Program (CCRP) the discourse of NCW has been largely technologized. But then again, this should not be surprising for both these institutions are very overtly State-sponsored entities. Thus, the study of NCW comes to us garbed (and, more often than not, garbled) in technicalities of radio frequency rates, baud rates, satellite transmission rates, kill-ratios, and the rapid commodification of ‘information theory’, and other such banal technical discussions. Whatever little that emerges in the form of speculative and philosophical investigations of war (and, by extension, of what it means to be secure) is ruthlessly dismissed and starved of any kind of support – material and/or otherwise. And, why are matters so dismal when relating to the speculative interrogation of war? Simply put, though the matter will be more fully dealt with, albeit as a sub-text, throughout this essay, the State is being defensive. As we will see, given that the State’s strategic object is to bring ‘war’ to Reason, which is a very Kantian project, any form of speculative activity (in Deleuzian terms, ‘a minor activity’) poses a threat to this dominance that the State wishes to exercise over ‘war’. Facing such a resistance, this study has sought to deploy a number of ‘other’ minor tactics to engage with that what lies outside the pale of state-sponsored intellectual activities centering on ‘war’.

A minoritarian tactic

This study, invoking the Bhagavad-Gita, some sections of the Principal Upanishads, while unreservedly acknowledging its indebtedness to the Deleuzian *oeuvre*, is an attempt to offer the outlines of an account of an 'originary mode of becoming-operable' – a becoming - understood in terms of a decomposition of 'strategic ensembles', masquerading as 'force', into a landscape of tactical fragments and initiatives. This study suggests that from the Bhagavad-Gita, the discussion between Krishna and Arjuna, is a classic example that highlights an event exhibiting such a decomposition of force and, in this sense, may be understood as being not simply an exegesis on war - *extensive* and *intensive* - but also as a signature of the in-folding and in-forming of the '*intensive-ness*' of war in its more commonly perceived *extensive* forms. Thus, for example, while Arjuna, operating in classic Clausewitzian mode, is hesitant to engage in what promises to be (in so far as he thinks is) a war of annihilation the success of which is determined in terms of victory and defeat,⁹³ Krishna, on the other hand, labours to explain to Arjuna a more 'originary' condition that he is already/ always embedded in and which in-forms Arjuna's immediate or *extensive* 'war' - the Battle of Kurukshetra. Thus he says...

⁹³ What do 'victory' and 'defeat' mean? See Stephen Biddle, *Military Power – Explaining Victory and Defeat in Modern Battle*, (Princeton: Princeton Univ. Press, 2006), pp 1-13

I am the mighty world-destroying Time, here made manifest for the purpose of infolding the world, Even without thee, none of the warriors arrayed in the hostile armies shall live.⁹⁴

As Krishna describes it, therefore, the battle of Kurushketra - for Arjuna - is a battle that takes place at a number of levels – the most obvious one being the fearful and annihilistic physical battle that forms the backdrop to the Bhagavad-Gita. By the time one reaches the end of the section within which the Bhagavad-Gita resides in the Mahabharata, however, one begins to get a sense of its pervasiveness...its immanence within the larger epic. Thus, as we become familiar with Krishna's Universal Form, we also become aware of the shortsightedness of the strategic imperatives that seemingly brought about the physical battle of Kurushketra. We now begin to recognize Dhritarashtra's guilt-ridden desire; the Kaurava clan's political object; the powerplay between Arjuna and Karna; the battle of wits between Yudhistira and Shakuni; the Bhim-Dushshyasana duel; the public insulting of Draupadi, and the numerous other incidents which are considered as being contributory constituents of the ultimate conflagration that took place on the field of Kurukshetra as nothing more than reiterations and expressions of the Universal Form – as merely instants and events in "...the whole universe centered in one – including the moving and the unmoving..."⁹⁵ What invites our attention to Krishna's and Arjuna's seemingly out-of-place discussion walled in by the two opposing armies is that in addition to it being the first and most vivid reference to the Universal Form, it is also a

⁹⁴ *Srimad-Bhagavad-Gita*, Trans. Swami Swarupanada, (Mayawati, India: Advaita Ashrama, 1998), Chap. XI, #32, p 259 (Hereafter, BG)

⁹⁵ BG, Chap. XI, #7, p 244

discussion that centers around what it means to be operable in and as the flux that characterizes Universal Form. This flux that is vividly described as being “boundless...in every side with manifold arms, stomachs, mouths, and eyes...” of which “neither the end nor the middle, nor also the beginning...”⁹⁶ can be seen is another battlespace where-in the collapse of Arjuna and his resurgence – guided by Krishna - as an enlightened ‘captain of war’ enables him to not simply do battle at the physical level, but to also (re)establish an immersive relationship with the unfolding events of *Intensive War*.

The Upanishads, while not as personable as the Bhagavad-Gita, reiterate precisely this. More importantly, when considered from a ‘methodological’ point of view, if we agree with Sri Aurobindo that the Upanishads...

...are not philosophical speculations of the intellectual kind, a metaphysical analysis which labours to define notions, to select ideas and discriminate those that are true, to logicise [*one is tempted to add technologize*] truth or else to support the mind in its intellectual preferences by dialectical reasoning...content to put forward an exclusive solution...in the light of this or that idea of reason and see all things from that viewpoint, in that focus and determining perspective...⁹⁷ (text in emphasis is mine)

...then our choice of the Upanishads – as a methodological guide - is dictated by the very key at which these ancient texts operate, which is to say, in a minor key. At the minimum, the Upanishads, read carefully, are disruptive texts that break up

⁹⁶ BG, Chapter XI, #16, p 249

⁹⁷ Sri Aurobindo Ghosh, *The Upanishads*, (Pondicherry: Sri Aurobindo Ashram Pub. Dept., 2000), p 3

that most revered of strategic ensembles, the (disciplined) mind, for the ‘separate phrases, single couplets, brief passages’ which comprise the Upanishads are ‘thrown out as a side, an aspect, a portion’ which, as Sri Aurobindo puts it, do not ‘follow the tardy, careful and diffuse development of the logical intelligence.’ These fragments are more like ‘becoming-thoughts’ or, as Deleuze puts it, ‘lines of flight’, whose trajectories are as vast as ‘the paces of a Titan’⁹⁸ They are instances of tactics that throw out of joint our familiar instruments of orientation thus making response a matter of sensibility - seamlessly, without any surface tension of any kind over and along ‘smooth space’.

In a similar fashion, Deleuze’s attempt to devise a ‘process ontology’, driven by the primal engine of a creative production, without ‘paying the heavy ontological price for a dualism or the unacceptable phenomenal price of the denial of creativity as illusory, as in the God’s eye view” of spiritual transcendent determinism, allows this study to devise an account of *Intensive War* that while accommodating the real and material notions of Clausewitzian war, remains in excess of it.⁹⁹ In other words, what Deleuze lends to this study, especially given its focus on NCW, is the possibility of re-drawing an account of martial operability that stands outside the usual realist, analytic, and ultimately, anthropocentric accounts of martial phenomenality that we are most familiar with till date.

⁹⁸ Ibid, p 5

⁹⁹ Deleuzian Interrogations: A Conversation with Manuel DeLanda, John Protevi and Torkild Thanem, published on *The Difference Site* (by kind permission of *Tamara: Journal of Critical Post-Modern Organization Science*, www.tamarajournal.com), p 3 (of pdf file). Last accessed on March 12, 2008.

It is important to again remind ourselves that not only is *Intensive War* the de-composing of force, but as such, it is 'force' itself. In this condition, as Field Marshal Moltke said, 'no plan survives contact' and radical indeterminacy – constancy of change - is an imperative that is eternally undermining itself in creative and productive ways, that is to say, in 'new' ways.¹⁰⁰ As we will see when we examine the Bhagavad-Gita, for the more strategically-minded Arjuna, this condition is simply incomprehensible. His *telos*-ridden/ driven 'world' will not allow for this 'texture' of 'mobile-dis-assembling/ de-composing' of force. Thus, when his best-laid plans - despite the best of his intentions - do not 'survive contact', he is baffled. The best that he can do is to 'sense'¹⁰¹ and respond¹⁰². Indeed, this marks his genesis as an 'enlightened' captain of war. And this, as we shall see, is precisely where NCW's current 'beef lies'!¹⁰³ For the NCW theorists, like Arjuna, 'response' is the key – response to not simply the overt strategic object of war – to create and deploy strategic ensembles – but also to the rhizomatic movement that the emerging face of war displays. It is important to carefully note the precise meaning and implication of the 'response' that is in question here. Strategically speaking, 'Response', in the context of the NCW project, is the 'bringing-forth' or 'revealing' of the world *as* 'sensing'. In this

¹⁰⁰ By this I mean that Intensive War always 'produces' or 'brings-forth' but this is not the 'bringing-forth' that Heidegger refers to in the sense of 'disclosing', 'unconcealment', 'revealing'. My deviation from Heidegger in this context is slight but worth pointing out. Production or bringing-forth, in the context of Intensive War, is a 'becoming' - a genesis – of that which has 'never been' rather than the unconcealment, revelation or disclosing of that which is (a) 'standing reserve'

¹⁰¹ Sense: From PIE base *sent- "to go"

(<http://www.etymonline.com/index.php?search=sense&searchmode=none>);

¹⁰² Response: From PIE base *spond- "to make", "to engage"

(<http://www.etymonline.com/index.php?term=spondeo>)

¹⁰³ Dr. Edward A. Smith, Jr "NCW – Where is the beef?" Submission to the Naval War College Review. Available at <http://www.iwar.org.uk/rma/resources/ncw/smith.htm>. Last accessed on Jan 2007.

sense, 'sensing' and 'response' are co-constitutive of each other *and* of the 'world', where the world is – in ordinary terms - 'standing-reserve'.

Now, Heidegger informs us that 'modern technology', among other things, "is a revealing", but one which is more of a 'challenging' or a 'setting-upon' of nature to "supply energy which can be extracted and stored as such."¹⁰⁴ This extraction and storage of 'energy' is the *ge-stelling* of force - by exhausting its energy – its *intensity* - thereby enabling its 'extraction and storage'. The interesting thing to note is that that what is 'extracted and stored', which Heidegger refers to as 'standing-reserve', is possible when 'change/ nature/ phusis' is already subjected to calculative reason for it is only then that 'change/ nature/ phusis' can respond to such a challenge.¹⁰⁵ Thus, in Heidegger's terms, for 'modern technology' to set-upon nature to supply energy, nature would itself have to stand-reserve and allow energy to be extracted from it. For the emerging theories of NCW, fabricated on the premise of being strategic ensembles and the means of achieving the promise of Calculative Reason, therefore, the most essential network is the one that enmeshes the three domains of the cognitive, informational and physical. This is the 'center of gravity' of the NCW project and it is in this way that the metaphysics that informs the NCW project attempts to, as Stiegler puts it, "constitute the *Gestell* (frame) of nature and of humanity through calculation."¹⁰⁶ Given this, the criticality of 'sense and respond' operations that

¹⁰⁴ Martin Heidegger, *The Question Regarding Technology and Other Essays*, Trans & Intro., William Lovitt, (New York: Harpen Torchbooks, 1977), pp 14-19

¹⁰⁵ Stiegler, *Technics and Time I*, p 9, 24

¹⁰⁶ Stiegler, *Technics and Time I*, p 10

form the bulwark of NCW theories is understandable. To Sense and Respond, within the NCW construct, is to 'bring(ing)-forth' that what is 'standing-reserve'. That what is 'brought-forth' is force sans *force-intensity*. This is the 'force' of the state-apparatus – be it a State or a war-machine, and *extensive war* is an expression of this 'force'.

Admittedly, this already marks a significant departure from how, and in what way, war and its conduct were (and in most cases continue to be) thought of and engaged in. But the significance of this departure – in the NCW context - is more often than not (mis)understood, primarily, in terms of its 'instrumental technicity' – 'the technological'. This has led to the perception that NCW may be an expression of how the 'technological' is the 'sensing-as-response' that delivers the promise of 'calculative reason'. In other words, as we have seen, for the NCW theories, 'sensing' (understood as 'bringing-forth') *as* a 'response', serves not only as the event-horizon of 'sensing-as-such' but also of 'response-as-such'. Thus, for the NCW theorists, the question of the 'manageability' of 'bringing-forth' - in the form of *a response* to 'Sensing' - is of critical importance. In this sense, the understanding of 'technology' is not only instrumental but also managerial. This perspective gains credence when considered in light of de Landa's assertion that the central theme of modern warfare was and remains logistics and not strategy or tactics.¹⁰⁷ Interestingly, this does not mark a departure from how warfare since the Enlightenment has been conducted - it is merely a

¹⁰⁷ Manuel De Landa, *Warfare in the Age of Intelligent Machines*, (New York: Zone Books, 2003), pp 105-125.

‘technologically’ different mode of *being martial*. The net-centric-warrior – like his predecessors – essentially remains a ‘technological and manageable being’.

Further, as we have seen, the co-incidental confluence of ICTs, biotechnologies and war-as-such, can be said to, albeit indirectly, reflect a map-less space, wherein the rhizomatic movements of NCW are first discernable and which the NCW war-machine is increasingly strategizing to code - Deleuze would say, to striate or to grid¹⁰⁸ - technologically. These are expressions or a response to a concern that, however faint, when considered in the context of the history of military thought, has always been in evidence - thus, for example, the Clausewitzian discussions on the ‘fog and friction’ of war and Moltke’s insistence on the fact that ‘no plan survives contact’ are cases in point. In today’s emerging informationalized battlespace, these concerns - these eruptions, interruptions and interventions – and their management are assuming a very material and, in this sense, different expression.¹⁰⁹ In keeping with this, as the literature indicates, one finds the NCW project revolving around concepts such as Dominant Battlespace Knowledge (DBK), Shared Awareness (SA), and other such “collective

¹⁰⁸ “The GIG Vision – Enabled by Information Assurance”, National Security Agency – Central Security Service, Available at <http://www.nsa.gov/ia/industry/gig.cfm>. As the NSA website puts it, “[T]he overarching objective of the GIG vision is to provide the National Command Authority (NCA), warfighters, DoD personnel, Intelligence Community, business, policy-makers, and non-DoD users with information superiority, decision superiority, and full-spectrum dominance.” See also, Smith, *Effects Based Operations*, pp 157-192.

¹⁰⁹ This refrain is constant as is evidenced by the mention it gets in most texts relating to war, strategy and military theory. See, for example, Gray, *Modern Strategy*, (1999); Vice Admiral Arthur K. Cebrowski, U.S. Navy, and John J. Garstka, “Network-Centric Warfare: Its Origin and Future” in the *Naval Institute Proceeding Magazine*, Vol. 124/1/1/139, Jan. 1998. Available at <http://www.usni.org/Proceedings/Articles98/PROcebrowski.htm>. Last accessed on July 28, 2006.

consciousness” constructs in and of the battlespace.¹¹⁰ This is symptomatic of the fact that ‘sensing as response’, in the context of the calculative framework of NCW’s center of gravity, is predicated on and by an ‘enframing’ (*Ge-stell*), which is limited/ bound by the calculative framework of reason and within which ‘Sensing as response’ takes place. The key point to note is that the ‘challenging’ that we referred to earlier takes place within this *Ge-stell* which is responded to and by that what is ‘*standing-reserve*’ which, as we have seen, is force without *intensity*. In this sense, ‘sensing as response’ is the ‘eternally recurring’ production – bringing-forth - of the *Same*. As long as the center of gravity of the NCW project – as a war-machine - is the *Ge-stell* where force bereft of *intensity* is ‘*standing-reserve*’, this works.

However, as Nietzsche informs us, force is...

...a monster of energy, without beginning, without end...increasing here and at the same time decreasing there...flowing and rushing together, eternally changing, eternally flooding back...most turbulent...most contradictory...a becoming that knows no satiety (for it has no desire), no disgust, no weariness....without goal...without will.¹¹¹

In the face of such energy, the *Ge-stell* - the center of gravity - of the NCW project, which presumes to exhaust force of its *intensity* is constantly disturbed, dis-placed, de-centered, shattered and, in this sense, is always on - but also past -

¹¹⁰ See, for example, Alberts et al, *Network Centric Warfare*, pp 133-156; Smith, *Effects Based Operations*, pp 296-352.

¹¹¹ Friedrich Nietzsche, *Will to Power*, Trans. Kauffmann & Hollingdale, Ed. Kauffmann, (New York: Vintage Books, 1968), # 1067, p 550

the brink of *Disaster*¹¹²for, if we remain with Clausewitz's turn of phrase, we could say that the 'fog and friction' of war that continually make their presence felt in the 'digital battlespace', are instances of 'eruptions', which are not simply mis-calculations but aspects of *Disaster*...intimations of non-gridded or map-less space. Critically, for the NCW project, 'Sense' and 'Response' in map-less or non-gridded space lose their traction and symmetry. They appear riddled with contradictions. Nietzsche's 'monster of energy' that roils this grid-less space ensures that 'Response' in such an "ebb and flood" of force is not merely a response to 'Sensing'. Nor are sensing and response co-constitutive of each other. Rather, 'Response' is *in-difference to and with* 'Sensing-as-such'.

In the Clausewitzian terms of Real War, this is the Limit-condition of NCW-as-War. Thus the *extensive* understanding of war invoked by NCW, or the mode of *being martial* in the Age of Information, may be described as being a defensive posture organized around its center of gravity (mapped or gridded space) and, as such, while its ethic is that of '*standing-reserve*', its strategic object lies in the mapping or gridding of space thereby attempting to *gestell* force by the fabrication of strategic ensembles. In this sense, the strategic object of NCW is to

¹¹² See Rene Thom, *Structural Stability and Morphogenesis*, Trans. D. Fowler. (Boulder, CO: Westview Press, 1989). See also, Tim Clark, "Deleuze and Structuralism: Towards a Geometry of Sufficient Reason" in *Deleuze and Philosophy: The Difference Engineer*, Ed. Keith Ansell-Pearson. (London: Routledge, 1997), p 60. Note: The sense in which the word 'disaster' is used here is drawn from Rene Thom's *Structural Stability and Morphogenesis*, in which he distinguishes between a set of 'regular points' (which do not differ *in kind* from either each other or from points neighbouring them) and 'catastrophe points' (which display some discontinuity, *that is to say, a difference in kind*). In these terms, Disaster is thus a qualification that is intrinsic to points. Thus, despite the revolutionary difference that is discernable between points that are 'regular' and 'catastrophic', there are, in the first instance, *intensive differences*, which co-constitutes the potential of the points. Blanchot, of course, makes a similar argument, albeit in poetic terms. See Maurice Blanchot, *The Writing of The Disaster*, (New Edition), Trans. Ann Smock, (Lincoln: Univ. Of Nebraska Press, 1995)

contend with the uncertain, the map-less, the grid-less and to bring them to Reason. Krishna's discussion with Arjuna suggests to us that this is the condition which bedevils Arjuna on the eve of the Battle of Kurukshetra. The Krishna-Arjuna discussion, textually bound as the Bhagavad-Gita, thus emerges as an exposition of not only the fraying and collapse of Arjuna's essentially Clausewitzian architectonic of *extensive war*, but also as an account of *Intensive War*.

Counter-intuitively, in the Bhagavad-Gita, Krishna suggests a mode of operability – one that is best described as ‘sense and evolve’ (SAE).¹¹³ One way to approach SAE - as a ‘mode of operability’ - is in terms of ‘originary technicity’, but one which is bereft of any anthropic hues,¹¹⁴ and which, in Krishna's words, is “impartible, yet It exists as if divided in beings: It is known as sustaining beings; and devouring, as well as generating [them].”¹¹⁵ In Krishna's terms this operational mode is marked by “seeing in-action in action and action in in-action”¹¹⁶ where “undertakings are all devoid of plan and desire for results...content with what comes without effort, unaffected by the pairs of opposites, even-minded in success and failure, though acting...not bound”,¹¹⁷ where “there is no waste...nor is there production of contrary results”¹¹⁸, and when “intellect crosses beyond the taint of illusion...regarding things heard and

¹¹³ The term ‘sense and evolve’ is coined by me - though one can find recent references to a similar concept in operational doctrines, particularly those pertaining to COIN operations.

¹¹⁴ See Keith Ansell Pearson, “Viroid Life: On Machines, Technics and Evolution” in *Deleuze and Philosophy: The Difference Engineer*, pp 180-181

¹¹⁵ BG #16, p 297

¹¹⁶ Ibid., #18, p 106

¹¹⁷ Ibid., #19, p 107; #22, p108

¹¹⁸ Ibid., #40, p 52

things yet to be heard...in-difference.”¹¹⁹ This is nothing less than a *becoming* - an “ebb and flood” of force - always de-composing strategic ensembles and structures (such as the Human, the State, or the MIME complex) - an *in-difference* that makes a mockery of the instrumentality and the managerial functionality that is the hallmark of the *extensivity* of not simply the NCW project, but also of the Clausewitzian understanding of war. This is a *becoming* that *Intensive War* entails. SAE operations, thus, are operable modes in which the theory of material, formal, final, and efficient causes is subverted and, as such, are expressions of *pure tacticity*, that is to say, *pure becomings* which, while being independent of the forms and substances, expressions and contents that *becomes*, nevertheless, co-responds to and with them thereby breaking up strategic ensembles into more local and transient tactical initiatives. As can be expected, the primary accounts of NCW - as a war-machine - where NCW is the technical, instrumental, manageable and thus strategic mode of *being-martial*, only serves to distract us from the mode of *pure tacticity* in the wider, deeper, richer and more complex ‘battlespace’ that is *Intensive War*.

Given its focus on *Intensive War* and *pure tacticity*, this study, therefore, is designed around three basic themes. First, it provides a historical, but also a philosophical, overview of military theory. The objective of this initial exercise is to reveal the ‘force’ of “a properly conceptual geometry which might be called

¹¹⁹ Ibid., #52, p 60

that of rationalism in general”¹²⁰ and which, in progressively lesser degrees of abstractness, takes the form of the Political and the State thereby underpinning and thus presuming to exhaust the phenomenon of ‘war’. Second, this study describes the project of NCW with the aim to highlight that despite its genesis from a space circumscribed by the political, what is philosophically interesting in the NCW project cannot be reduced to the specificity of the conduct of (*extensive*) war – something that the more vociferous of NCW theorists and much of the policy-making community have either ignored or missed. Rather, as this study demonstrates, the NCW project’s greatest conceptual and philosophical challenge is to intimate us of *Intensive War* that is ‘always-already’ uninhibited and extravagant and which ‘originally’ in-forms and is always in excess of the more commonplace Clausewitzian notion of war that we are familiar with. Finally, this study undertakes a discussion of *Intensive War* which is, in Deleuze’s words, “a differential geometry which tends to ground solutions in the conditions of problems.”¹²¹ It is important to note that the ‘ground’ of this ‘differential geometry’, which is ‘sufficient reason’, is “strangely bent: on the one hand it leans towards what it grounds, towards forms of representation; on the other hand, it plunges into groundlessness which resists all forms.”¹²² In this sense, SAE operations, i.e. *pure tacticities*, are moving and morphing ‘differential intensities of force’.

¹²⁰ Tim Clark, “Deleuze and Structuralism – Towards a Geometry of Sufficient Reason”, in Ansell-Pearson ed. *Deleuze and Philosophy – The Difference Engineer*, p 58

¹²¹ Gilles Deleuze, *Difference and Repetition*, Trans. Paul Patton, (New York: Columbia Univ. Press, 1994), p 162

¹²² Deleuze, *Difference and Repetition*, p 275

It is important to bear in mind that such an exercise, following a Nietzschean refrain, is 'dangerous'. This is because not only would we be creating and appropriating 'concepts' and their associated vocabulary, but also because to do so we would have to 'become' something 'other' than what we already are. This condition, as we have noted, is one of '*pure becoming*' and our identification with it immediately renders the links between this emerging understanding of ourselves and the traditional understanding of the Human more tenuous and distant. Under these conditions, it will be appreciated, the commonplace Clausewitzian understanding of 'war', which is subordinated to 'the political' and which, in this sense, is dependent on a particular understanding of 'the human', undergoes a change.¹²³ The mode of operability applicable to such a condition is best described in terms of a 'wandering' that takes "the hereness and nowness of place (and time) with it as unstill reference point[s]."¹²⁴ This is the 'nomadic' condition that characterizes *Intensive War* and *pure tacticity*. In this connection, it is also necessary to bear in mind the Deleuzian proposition which affirms that not only are 'becomings' dynamic conditions but that they are also repetitively different.¹²⁵

¹²³ Note what Bassford has to say in this context: "Within the Trinity discussion itself, because the third element is war's subordination to rationality, it may be entirely appropriate to use the word policy in translating that particular clause. But we must always bear in mind the awkward fact that, while Clausewitz seems in this discussion to be speaking from the perspective of one side in a war [e.g., the people (singular), the government (singular), and the commander and his army (singulars)], his topic in this chapter is the nature of war, which must by definition be multilateral. The clash of two or more rational, opposing, unilateral policies brings us into the realm of multilateral politics. Thus there really is no reason to avoid translating the Trinity's *politischen Werkzeuges* literally, i.e., as "political instrument." See, Christopher Bassford, "Tip-Toe through the Trinity or the Strange persistence of Trinitarian Warfare", Working Draft, Oct. 2007 (Working Draft), Available at <http://www.clausewitz.com/CWZHOME/Trinity/Trinity8.htm>. Last accessed on May 20, 2008.

¹²⁴ Sean Cubitt, *Digital Aesthetics*, (London: Sage Publications, 1998), p 6

¹²⁵ See Gilles Deleuze, *Difference and Repetition*, Trans. Paul Patton (New York: Columbia University Press, 1994), pp 70-128.

A cautionary note is warranted here. As Deleuze advises us in the context of 'pure differences'...

...the greatest danger is that of lapsing into the representations of a beautiful soul...the beautiful soul says: we are different, but not opposed... . The notion of a problem, which we see linked to that of difference, also seems to nurture the sentiments of the beautiful soul: only problems and questions matter...when difference becomes the object of a corresponding affirmation, they release a power of aggression and selection which destroys the beautiful soul by depriving it of its very identity and breaking its good will...¹²⁶

It is not surprising, therefore, that notions pertaining to 'individuality' that underpin our traditional understandings of 'the human', "cannot be taken as a given...it is [merely] a function..."¹²⁷ in the formation of the emergent condition. This also calls into question the notion of 'causality' which, under this emergent condition, loses its familiarity. In the words of Dillon,

[H]ow to understand that 'causality' and its allied notions of prediction and premonition, is a key issue closely related to the ways in which...[the emerging theories of war]...not only understand processes of formation and change but also those of creativity; how things happen, how they can be made to happen, and how matters can be construed so that certain kinds of happenings are encouraged or discouraged.¹²⁸

¹²⁶ Deleuze, *Difference and Repetition*, p xx

¹²⁷ Cubitt, *Digital Aesthetics*, p 6

¹²⁸ Michael Dillon, "Poststructuralism, Complexity and Poetics", in *Theory, Culture and Society*, (London, UK: Sage Publication, 2000), Vol 17:5, 1-26.

It is under these radically different and emergent conditions that the theories of NCW, as a strategic ensemble, de-construct.

Given this, it is suggested that the reader approach the present study as an extended experiment which is geared to interrogate the singularly 'thanato-political' premise of the prevailing mainstream philosophies and doctrines of war and its conduct, which continue to subtly, but unmistakably, inform the theory and doctrines of NCW. This exercise should not be misunderstood as being a case of propounding an alternate 'theory of war'. Rather, it is a response to the emergent conditions that have resulted as war and its conduct find their expression in the Information Age. In keeping with the turbulent conditions that are, in many ways, the focus of this study, it will necessarily be a poly-vocal performance that is disruptive and subversive to the dominant philosophies and doctrines of war and its conduct (and by implication, to the underlying anthropic principle). In the same vein, however, by premising itself on the notion that the 'emergent condition' is 'regenerative' in nature, the thesis itself is subject to disruption and subversion which are endemic to an emergent condition, and in this sense, can lay claim to being, in part, regenerative.

Within this essentially de-constructive experiment, however, a careful reader will be able to discern a fundamental methodological orientation that this study adopts. As Richardson notes while reading Nietzsche, "the evidence lies at the periphery to the system and runs in from there through decreasingly specific

accounts of the data to the central ontology – rather than from an ontology proven first, up to the detailed implications it supports.”¹²⁹ In this sense, this thesis ‘keeps [a] traditional metaphysical priority: it supplies [by, as mentioned above, re-appropriating and/ or re-creating]...concepts...for all...concrete efforts to describe evidentiary and experimental data; indeed it even helps to determine what that data will be.’¹³⁰ It is for this reason that this study, in part, focuses on an investigation of the ‘performative contradiction’ of the NCW project and notes how such a contradiction serves as a portal that allows us to consider the condition of *Intensive War* in which we are always-already *becoming martial*..

Possible Critiques

This methodological stance may invite the criticism that this study is simply invoking the principle of perspectivism in a back-handed manner. The charge may be levied that the present exercise makes a virtue of perspectivism and that, as a net assessment, a vulgar form of ‘intellectual mobocracy’ is being upheld. Contrarily, it is suggested that ‘perspectivism’ is, in the context of this study’s ‘originary’ ontology, an ‘epi-phenomenon’. In other words, ‘perspectivism’ is not central to the ontology. The ontology presumed and described by this study is one which accounts for ‘perspectivism’, rather than being driven by it. In this sense, it could be said that the ontological premise of

¹²⁹ John Richardson, *Nietzsche's System*, (Oxford: Oxford Univ. Press, 1996), p 7

¹³⁰ Ibid.

this study presumes an ontology of perspectives rather than affirming a banal ontological perspectivism.

Secondly, in the context of this study and the ‘changes’ and transformations that it purports to take seriously, it may be argued – as May does – that...

...there is less to these changes than tales of transformation suggest. Simply put, while we may be living through a period in which the form and practices of our lives are changing in many ways, the underlying substance of our socioeconomic system remains largely the same...when we strip away the shiny new products and services which are available to us in increasing quantities, much about the world has not changed.¹³¹

In many ways, this is reminiscent of those military theorists and philosophers of war who - from the perspective of the State-apparatus - hold that ‘war is eternal’.¹³² The bottom-line of this view does not question the fact that changes are occurring – for *how* can that be denied – rather, it is the profundity of the changes that is contested.¹³³ The ‘blind insight’ of such criticisms is that the exponential growth and increasingly ubiquitous use of ICTs have not shown that “...[the] hard-won *knowledge* of modern life developed *in the past* is now outmoded or useless.”¹³⁴

¹³¹ Chris May, *The Information Society – A Skeptical View*, (London: Polity Press, 2002), pp 1-2

¹³² See, for example, Gray, *Modern Strategy*, p1

¹³³ May, *The Information Society – A Skeptical View*, p 2

¹³⁴ *Ibid.* (my emphasis)

Though the proponents of the above view, that is to say, those who express a healthy and / or otherwise skepticism vis-à-vis the ‘tales of transformation’, do not quite so explicitly mention it, nevertheless, their blind insights do lead us to the observation that ‘Knowledge’ - *in* the Past - is static, that is to say, it is immobile. It is an artifact, rather than ‘art’. The ‘*ge-stell*’ (en-framing) of Knowledge, under these circumstances, is the Past – that is to say, within a particular ontology of ‘limits’ – a boundary condition. *In* it, Knowledge - like the net-centric warrior - is *standing-reserve*...

1. ...as something which does not itself appear but which acts as the most immediate constraint on what does appear;
2. As itself as a phenomenon which somehow encompasses and constrains all other phenomena;
3. As something neither strictly a phenomenon nor something which does itself appear but something intermediate between the two that constrains phenomena (or mediates the relations between what appears and what does not);
4. As a double limit...one on each side of the boundary between phenomena and what does not appear.¹³⁵

Naturally, it is not unexpected that there is an insistence that ‘much about the world has not changed’. Indeed we again find, that like the majority of the post-modern/ post-human discourse in which ‘man owns his becomings’, ‘insights’

¹³⁵ Philip Turetzkey, *Time*, (New York: Routledge, 2000), p 3

such as these also insist on ‘man’ owning not simply ‘knowledge’, but more critically, its ‘becoming’.

While this study would not summarily reject the above view, for it is undeniably an ‘insight’, it would, however, point out that there could be another account of the transformation underway – one that could possibly neutralize the overbearing anthropocentric elements that taint these ‘tales of transformation’. Thus, for example, it could be argued that far from ‘the hard-won knowledge of modern life’ being rendered useless, it is a vital and *intensive* co-constituent (but also expression) of Becoming-knowledge. Knowledge, thus, escapes the instrumental confines of the human (anthropos). Of course, this would mean that Knowledge is *from* the Past, rather than being *in* it – which, in turn, would suggest that when Knowledge is *from* the Past then, rather than its mobility being predicated by a ‘challenging’ - as would be the case if Knowledge were *standing-reserve* - Knowledge is always already mobile. In this sense, Knowledge is not a painful accumulation of building-blocks – a condition that is perhaps more applicable to a becoming of the Canon. Surely this would offer a radically different diagram of Knowledge as a line of flight as compared to that offered by skeptical observers and commentators. Moreover, it would also allow for a partial, if not complete, revisiting of how a ‘history of knowledge’ could be written¹³⁶ which in turn would compel us to re-visit our staid understanding of transformation as simply change. This is but one example of how some of the

¹³⁶ See, for example, De Landa, *Warfare in the Age of Intelligent Machines* (particularly the Introduction)

skepticism that is expressed against the ‘tales of transformation’ can be responded to.

Further, given this study’s focus on ‘martial’ literature, particularly those pertaining to the NCW project which, as we have seen, is almost always contextualized in the space of *extensive war*, its propositions and tentative conclusions may seem ‘out of this world’.¹³⁷ Thus, as Hallward puts it in the context of his assessment of Deleuze’s philosophy, “those of us who still seek to change our world and to empower its inhabitants will need to look for our inspiration elsewhere.”¹³⁸ Contrarily, it is suggested that the question of whether this (or, for that matter, any) study is, or will be, an ‘inspiration’ is not of importance, or even of relevance, rather what matters is the depth and the provocative power of a/ the study as a problematization.¹³⁹ Given that Hallward levies precisely this charge, among others, against Deleuze’s philosophy, and the fact the present study is indebted to, among others, Deleuze’s work, Hallward’s critique of Deleuze is not only relevant but also worth considering in some detail.

While comparing and contrasting Deleuze’s philosophical contribution to that of Foucault’s, Hallward says,

¹³⁷ See, for example, Peter Hallward, *Out of this World: Deleuze and the Philosophy of Creation*, (London: Verso, 2006). His criticism of Deleuze’s philosophy is summed up in the title of the book. He considers Deleuze’s philosophy as being ‘out of this world’ and thus not, in essence, practical, that is to say, instrumental.

¹³⁸ Hallward, *Out of this World*, p 164.

¹³⁹ See, for example, Gilles Deleuze, *Empiricism and Subjectivity – An Essay on Hume’s Theory of Human Nature*, Trans. & Ed. Constantin Boundas, (New York: Columbia University Press, 1991), p 107.

Even Foucault's early essays...in which he is no doubt closest to Deleuzian concerns, what is mainly at issue is not the liberation of a singular creative energy so much as the absence of determination that confronts a de-specified subject. In all the limit experiences that Foucault garners from Bataille, Roussel, Artaud and others, the void which defines their limit remains precisely that: void...It is the 'absolute void' or 'essential emptiness' left by the dissolution of the classical subject...So...Foucault carefully distinguishes his outside from any mystical intuition.¹⁴⁰

Hallward's objective in drawing this comparison with Foucault is, of course, to highlight "what Deleuze 'didn't say but is nonetheless present in what he did say.'"¹⁴¹ Further, in his brief comparison between Deleuze's and Heidegger's philosophies, Hallward says...

No less than Deleuze, Heidegger [also] affirms a dynamic conception of being that has more to do with the verb than the noun – being as creative process or event. But he does so, at least to begin with, by framing it precisely in terms of being-in-the world, on the one hand, and being within creatural or mortal time on the other.¹⁴²

Hallward thus points out that "[T]here is nothing specifically contemporary about such a logic...On the contrary, the basic parameters of a philosophy that seeks to align itself with a singular principle of absolute creativity are very ancient."¹⁴³ Indeed, aside from pointing out the inspirational debt that Deleuze owes Bergson and Spinoza, Hallward also directs our attention to the presence of "the essential

¹⁴⁰ Hallward, *Out of this World*, p 161

¹⁴¹ *Ibid.*, p 2

¹⁴² *Ibid.*, p 160

¹⁴³ *Ibid.*, p 4

distinctions at issue...in the work of a radical theophanist like John Scottus Eriugena”,¹⁴⁴ and even before him, to Plotinus, thereby attempting to delineate Deleuze’s philosophical lineage and what Hallward considers the essentially ‘theophanic’ nature of his philosophy. Hallward marshals an impressive array of thinkers ranging from the Sufi philosopher, Ibn-al-‘Arabi, to Meister Eckhart to emphasize that the Deleuzian philosophical project is nothing more than the fact that “we *are* and have always been creation, and our awareness of being this relies, in the end, on nothing more (or less) than an original or pre-original affirmation, an affirmation which opens the field of its subsequent effects as a series of immediate implications.”¹⁴⁵ From this, Hallward concludes that for Deleuze, “[P]reoccupation with the world as such, let alone a concern with the orderly representation of the things in the world, serves only to inhibit any such affirmation.”¹⁴⁶ In other words, Hallward’s principle concern about the ‘out-of-this-world’ or ‘extra-worldly’ *tonality* of Deleuzian philosophy, which is equally applicable to this study, is that “[A] creature’s own interests, actions or decisions are of minimal or preliminary significance at best: the renewal of creation always requires the paralysis and dissolution of the creature per se.”¹⁴⁷ Thus, for Hallward, the “paralysis of the subject or actor”¹⁴⁸ and loss of a strategic apparatus – indeed, of the whole notion of strategy¹⁴⁹ - is “a neutral space in

¹⁴⁴ Ibid., p 5

¹⁴⁵ Ibid., pp 5-6 – emphasis in original

¹⁴⁶ Ibid., p 6

¹⁴⁷ Ibid., p 163

¹⁴⁸ Ibid.

¹⁴⁹ Ibid.

which no existence can take root.”¹⁵⁰ In this way, Hallward fears an ‘indifference to the politics of this world.’¹⁵¹

Given this and noting, *en passant*, that Hallward does not attempt to extend Deleuze’s philosophical lineage to ‘other-world’ philosophies such as, for example, Advaita, it is not surprising to find that he prescribes a ‘future’, quite like how Secretary of Defence Rumsfeld suggests in the context of ‘force transformation’. Hallward’s prescription is worth noting in detail. He writes:

The politics of the future are likely to depend less on virtual mobility than on more resilient forms of cohesion, on more principled forms of commitment, on more integrated forms of coordination, on more resistant forms of defence. Rather than align ourselves with the nomadic war-machine, our first task should be to develop appropriate ways of responding to the newly aggressive techniques of invasion, penetration and occupation which serve to police the embattled margins of empire.¹⁵²

Note, however, that the ‘effort’ that Hallward calls for is as much of a ‘war machine run amuck’ as the one that he purports to rally against. Hallward’s specific prescriptions – ‘sustained cohesion, principled forms of commitment, integrated forms of coordination and more resistant forms of defence’ – are no more than the affirmation of a particular *Ge-stell*, or the bringing-forth of *a* world. Hallward is, thus, content with *this* world and not its becoming. In this sense, as we have seen, Hallward remains as ‘technological’ as the NCW project and as

¹⁵⁰ Ibid., p 161

¹⁵¹ Ibid., p 162

¹⁵² Ibid., pp 162-163

such faces the prospect of the same performative contradiction as the NCW project in the condition of *extensive war*.

Also, like Hallward's critique of Deleuze's philosophy, which he contends "amounts to little more than [an] utopian distraction"¹⁵³, it could be charged that this study is equally 'utopian' and "can offer only the most immaterial and evanescent grip on the mechanisms of exploitation and domination that continue to condition so much of what happens in this world."¹⁵⁴ The logic that drives such a critique is simple enough. In Hallward's words, it is one that "disables action, in favour of contemplation."¹⁵⁵ It is interesting to note that Hallward omits to mention that 'contemplation', which is 'thinking', is not in/ non-action, rather it is what the Bhagavad-Gita notes as being 'action in in-action', which is just as material and as 'forceful' as any of the more 'material' and 'permanent' actions that Hallward may have in mind. For Hallward, labouring under an Adorno-inspired Kantian regime, 'separating the *constituens* from the *constitutum* – the purely transcendental consciousness from 'the world' in the broadest of senses – only results in the rendering of the *constituens* indeterminate and abstract, perhaps even unimaginable'. Following through with Adorno's reading of Kant, for Hallward and for the out-of-the world critique, there are only two alternatives – (1) encompass both the constituting and the constituted as a 'monstrous, gigantic, absolute term' or, (2) adopt a dialectical mode that 'realizes that there is neither a

¹⁵³ Ibid., p 162

¹⁵⁴ Ibid., p 162

¹⁵⁵ Ibid., p 163

constituens nor a *constitutum*, instead these two mutually produce one another'.¹⁵⁶

In this light, this study's focus of interest – *Intensive War* – could then be shown to be 'the monstrous absolute' that encompasses the 'constituting and the constituted.'

Contrarily, this study asserts that not only is *Intensive War* not 'the monstrous absolute' that Hallward suggests, it is the imperative that fractures the absolute, that is to say the *Ge-stell*, with and in which the 'absolute difference' that Hallward presumes between the *constituens* and the *constitutum* assumes a tangible materiality. What Hallward misses is that like for Deleuze, so also for this study, the *constituens* and the *constitutum* are not different, rather they are *in-difference*, and it is the Becoming-different of the *constituens* and the *constitutum* – understood as a creative and productive Becoming - not as a *Ge-stell* - that enables Hallward to levy, what one presumes, is his very material and action-full critique in the first place. Hallward thus misses the point that such *in-difference* cannot but be very action-full, very material, very real and very transient for, among other things, it is this *in-difference* that not only creates the possibility of 'the mechanisms of exploitation and domination that continue to condition so much of what happens in this world' but also tears them down. As we will see, this *in-difference* is an empirical signature of *Intensive War*.

It is also expected that military historians, strategists, policy makers and state-sponsored academicians mandated to perpetuate 'the canon of war' will look

¹⁵⁶ Ibid., p 185-6, fn# 15.

at this study with amusement – perhaps even with severe disdain. In particular, following Hallward, they would contest the ‘other-worldly’ posture that this study insists on. They would say - given that war is ultimately not simply about power but also about life - that is to say, human life - organized politically, and given that, more often than not, the ferociousness of war in the ‘real’ world is more than adequately demonstrated by bloody and painful losses, it surely is not a matter to be either wished away or to be trifled with - especially in the manner in which this study does by selectively reading and interpreting the history of military thought. This study responds to such objections by pointing to the premise on which they are based. Thus, this study interrogates the privilege that this ‘life’ is accorded, which such objections purport to take seriously. Further, it notes how objections like these, which take a privileged life as their core rationale, begin to deconstruct in the face of the virtual realities that the Age of Information is heralding.

Moreover, given some of the names invoked by this study - Deleuze, Nietzsche, Kant, Krishna, the Bhagavad-Gita, the Upanishads but also Clausewitz, Jomini, Guibert and, from more recent times, Admiral Cebrowski, Andrew Marshall, Martin Libicki, John Arquilla and David Rondfeldt - it may also be the case that this study would face questions such as – what do Deleuze and Clausewitz have in common? What possible effect could the epistemological theories of Kant have on the study of war? In what way does the introduction of Advaitic philosophies assist in understanding network-centric warfare differently? What light does a discussion on the Cartesian construction of the Self throw on

military theory? How and why does the Romantic notion of the genius prefigure in discussions focusing on ‘the great captains of war’ and on the ambitious attempt to ‘tame chance’, particularly in the context of NCW? This study acknowledges the force of these questions, in particular, and of the argument, in general. What it offers are not answers but a mode of questioning, which as a mode is nothing new. In fact, as we will see, the transformation of (western) society from the Age of Religion to that of Reason also brought in its wake a reevaluation of all values, including those pertaining to war. In a similar manner, this study argues that with the advent of the Age of Information we, not unlike our predecessors, find ourselves situated at a cusp, that is to say, at the moment of a transformation. Among other things, this transformation is also about how we think about and relate to war.

Not surprisingly, therefore, this study insists on addressing the theories of war, past and present, as primarily philosophical encounters rather than as merely tactical or strategic works on war. Thus, in the same manner in which this study sketches out an intellectual genealogy between Clausewitz’s theory of war (here representing the zenith of the history of military thought) and the Project of Reason, a similar economy of relations between Deleuze’s philosophy of the virtual, sense and immanence and the emerging theories and practices of NCW is drawn. The significant difference in this exercise being, however, that in the latter case, especially given the fast-paced emergence of ICTs and their increasingly ubiquitous use in Real War, we are quickly approaching a point that veers

dangerously close to what can be labeled as a technologization of Deleuze's plane of immanence.

Working from the premise of Deleuze's notion of a 'terrible peace' this study suggests that a marriage between the Clausewitzian theories of war and information technology (as a 'dependency-structure') spawns a logic of war that tends to establish a condition of suspended animation – a condition of maximal security - by creating and deploying, in Libicki's words, 'a fine enough mesh that can catch everything'. While some would say that this is a too broad, dismal, apocalyptic, techno-driven understanding of war and of human society, yet, some of the evidence that we have seen thus far, and those that we will examine in some greater detail during the course of this study, seems to point in this direction. This, while being the more common way by which the problematization of war in the Age of Information is taking place, *in extremis*, succeeds in sapping 'war' of its conceptual potency. Yet, as this study will attempt to demonstrate, there may be an alternative. By taking the changes being brought in by our proliferating use of advanced information technologies seriously and by casting the intellectual efforts of some of the key military theorists and strategists mentioned above against a broader, possibly even against a more non-philosophical framework, it is possible to discover other more latent potencies in war as a concept. In keeping with this, this study argues that the marriage of these past and present theories of war with the digitally-driven dependency structures of the Information Age, while undoubtedly effecting a transformation in, among

other things, fundamental concepts such as 'the Real', may not necessarily lead to the condition of 'suspended animation'. Instead, this study suggests, as war and society move from an era of mechanization to one of information, an opportunity exists to re-cover an other war that while accounting for the political, nevertheless remains unaccountable to it.

Outline of the study

It should be emphasized that this study is neither an intellectual history of the evolution of the theories of war and combat culminating in the emerging theories of NCW, nor is it a comprehensive account of the *mode of combat* commonly known as NCW. Worthy accounts that deal with such areas of interest already (over)populate the shelves of our libraries. Contrarily, this study is, in its essence, a critical engagement with the concept of 'war' that, in its traditional Clausewitzian mode, can be and, in some quarters, are being radically problematized by the dramatic developments in the dawn of the Information Age. The mode of this engagement is to read the 'shadows' cast by the patently Enlightenment project that theories of war and combat, including the NCW project, 'desire' to actualize under conditions of what Clausewitz described as Real War. This study hopes that some sense of what *Intensive War* and *pure tacticity* involves will become apparent by our engagement with and as the polemical condition that is always-already erupting with-in the 'striations' of the NCW project.

Thus, to give a brief overview of the contents of this study, Chapter Two provides a historico-philosophical overview of the evolution of military theory with the aim to expose what I refer to as the ‘architectonic of war’. This is the framework – conceptual and material – within which we commonly understand war and engage in it. One pattern that emerges from this ‘framework’ (*ge-stell*), which this study focuses on, is that of ‘suspended animation’. But, as we will see, this is no simple suspension of animation. Chapter Three begins by describing the theories of NCW. Then, co-opting segments of the Deleuzian *oeuvre*, it confronts the theories of NCW subversively. This allows us not only to engage with the vitality of NCW, it also allows us to confront the ‘always-already’ presence-ing of *Intensive War*, which, as we will see, is notionally labeled in past and present theories of war as *the Disaster* (because it is the dis-orienting, de-centering, de-constructing, shattering) that confronts and undermines not only the ‘desire’ of the NCW project, but of ‘*extensive war*’ itself. By co-relating past developments in (traditional) military theory with the emerging theorizations of NCW, we will investigate how the problem posed by *Thanatos* is contained within a patently martial flavour of a *universal mathesis*. Among other things, this will allow us to ‘portal’ through and go beyond the ‘shadows’ of the mesh of nets that NCW – as a concept - seeks to cast thereby ‘constituting the *Gestell* (frame) of nature and of humanity through calculation’. Chapter Four, presents an account of *Intensive War* drawing not only from the works of Deleuze and Heidegger which, influenced by the fragments of Heraclitus, have at their root *polemos*,¹⁵⁷ but also from the Bhagavad-Gita, which insist on an originary account of Becoming as

¹⁵⁷ Gregory Fried, *Heidegger's Polemos – From Being to Politics*, p14.

‘war’.¹⁵⁸ It also looks at the modes of operability that *Intensive War* necessitates. Having thus far presented the reader with an account of *Intensive War*, in a Postscript, this study returns to the question of war-as-such and reiterates how by problematizing war in terms of *Intensive War*, we are able to recover a more originary mode of *martial bearing*.

So much for an outline of how this study is presented. The reader may also find helpful a thematic sketch of this study’s engagement with *Intensive War*, the contribution by which it is believed that this work departs from other scholarship on war and its conduct, particularly in the Information Age. While this sketch may provide some of the critical ‘lines of flight’ that this study pursues, it is not meant as a comprehensive description.

The main thesis of this study centers, of course, on *Intensive War and pure tacticity*, by which at least two things are meant: (1) an ‘originary’ condition which, Krishna – in the Bhagavad-Gita - refers to as *Lila* - the highly dynamic and fluid condition of the ‘play of forces’; and (2) an eruption, which is *both a condition and a mode of operability* – thus, a ‘serious play-fullness’ - that relentlessly tears apart NCW’s project – indeed that of all the theories of war and the military that we will consider in this study - of establishing a *universal mathesis* by reducing change/ nature/ phusis to calculative reason (note that it is possible to read ‘maya’, as this study does, in the Bhagavad-Gita, as the

¹⁵⁸ While the Upanishads speak of ‘war’, that is to say, of ‘intensive war’, in elliptical terms, the centrality of ‘intensive war’ is unmistakable. Various commentators have noted this. See for example, Sri Aurobindo, *Essays on The Gita*, First series, Chapter V - Kurukshetra , (in ‘Arya’, December 1916)

MetaMesh of the mesh and networks that sustain the condition of *universal mathesis*).

Now, Fried shows us that...

Heidegger's preferred translation for the Greek word *polemos* is...commonly rendered in English as 'confrontation'...[which]...is both a struggle [*kampf*] over and an account [thus a communication or *mitteilung*] of the sense of things, but not a naked attempt to impose meaning or dominion; confrontation expects and indeed demands resistance...This sense of confrontation...this confronting constitutes the fundamental condition of our existence, but not in the Darwinian sense of a struggle for existence as the survival of the fittest or in a Hobbesian sense of a war of all against all (although such things may subsist as aspects of *polemos*).¹⁵⁹

At first glance, the similarity between this Heideggerian understanding of *polemos* and 'Intensive War/ pure tacticity' may seem strikingly obvious. Indeed, as Fried also points out, given the scope of Heidegger's *polemos*, which is both broad and deep, for Heidegger, "*Polemos* is a name of Being"¹⁶⁰ and in this sense, *polemos*, for Heidegger, is an ontological concept. Seen in this 'frame', yes, there is a similarity between Heidegger's *polemos* – as interpreted by Fried – and *Intensive War/ pure tacticity*. However, the point on which this study parts company with Heidegger is on the *nature* of the implicit confrontation (struggle (*kampf*) + communication (*mitteilung*)) that Heidegger's *polemos* entails. Contrary to Heidegger, this study argues for an understanding of *Intensive War*

¹⁵⁹ Gregory Fried, *Heidegger's Polemos – From Being to Politics*, p 15.

¹⁶⁰ *Ibid*, p 16

(and *pure tacticity*), where the very notion of ‘confrontation’ is obviated by the fluidity of the ‘play of forces’ (*Lila*). Even a sophisticated account of the polemical nature of Being, as offered by Heidegger, ultimately, by positing ‘confrontation’ or, more precisely, ‘confront-*ing*’ as being constitutive of the fundamental condition of existence, ultimately relies on an ‘external’ distinguishing between sides from one another by the taking up of confronting positions in everything from respectful, vigorous debate to trench warfare.’¹⁶¹ The question that must be posed to Heidegger here is whether this confront-*ing* is solely in terms of Being or also of Dasein. If we go by Fried’s reading, Heidegger’s *polemos* “describes not only our own Being, what he calls Dasein, but also of Being itself.”¹⁶² But repeatedly we find that the access to Being as *polemos* is mediated by the polemical nature of Dasein, which detracts from the in-human aspect of Heidegger’s *polemos* and returns it to an anthropic plane. Thus, Being is always being thrown-in-the-world. But this also means that Heidegger’s *polemos* is also tainted by *anthropos* - even if this tainting is inestimable. Thus, at the least, and as a direct cause of this tainting, *polemos* is polemical, but anthropically. In this sense, *Intensive War*, within the Heideggerian construct, cannot help but always *become-extensive*. As we will see, even the Deleuzian construct falters at this very point.

¹⁶¹ Ibid, p 15

¹⁶² Ibid, p 16

This study suggests that war, that is to say, *Intensive War*, is better approached in in-human, that is to say, in *machinic* terms.¹⁶³ *This allows us to not only observe Lila at play, but also to be the player in, of, and as, Lila without succumbing to the debilitating distance and unidirectional movement associated with any form of transcendent locus.* Among other things, this involves a detachment from Heidegger's Dasein and the abandoning of the anthropic plane. It will also involve us in movements that are immanently nomadic that break down walls - the flimsiest (as constructed by the most loosely arranged of assemblages) to the most chalky and rigidly rock-like ones (as presented by the most densely packed apparatuses and structures) – by re-arranging them. Thus, *Intensive War* is not simply *polemos* - it is, in an even more originary sense, in excess of *polemos*, that which Krishna refers to as *Lila*. The task on hand, therefore, is to engage with the operative condition of *Intensive War/ pure tacticity* as the 'ebb and flow of forces'.

¹⁶³ Machinic, Bonta and Protevi inform us, is the "Adjectival form for the operation of the machinic assemblage or machine...the 'cutting edge of deterritorialization' that draws variations and mutations of an assemblage..." See Bonta & Protevi, *Deleuze and Geophilosophy: A Guide and Glossary*, p 107.

Chapter Two

The Architectonic of War or,

...this way to technical paradise...¹

SECTION I

A Historico-Philosophical Background

“No medieval thinker, no matter how adventurous, could have undertaken Kant’s construction of a religion within the limits of reason alone – he could have hardly imagined it.”² But this does not imply that medieval philosophers were any less partial to Reason. As Gay points out, “...there were many subjects, especially in logic and ontology, which (the medieval) philosophers treated philosophically – that is by the sole right of reason.”³ What distinguished them, however, from their Enlightenment successors was their conviction that, as Gay puts it, “nothing but the divine could penetrate everywhere.”⁴ For those who dared to deny the absolute permeability of the divine, Dante’s *Inferno* - particularly the sixth circle of hell - awaited them. Thus, not many could keep the divine in abeyance for too long. Indeed, as Gay suggests, “Dante’s journey from the *Convivio* to the *Divine*

¹ Black Sabbath, “Computer God” from *Dehumanizer*, 1991

² Peter Gay, *The Enlightenment: The Rise of Modern Paganism*, (London: W.W. Norton & Co., 1995), p 235. Gay points to Thomas Aquinas’ stance which allowed for the co-existence of reason and revelation, a point which was recently made by the current Pope.

³ *Ibid*, p 234

⁴ *Ibid*, 236-7

Comedy mirrors the retreat from critical thinking...”⁵ that marked the Age of Religion. This hierarchy of values – this subordination of Reason to the Divine - was inconceivable to the Enlightenment philosophers for, as Gay highlights, ‘philosophy (for the Age of Enlightenment) was autonomous and omnipotent, or it was nothing.’⁶

The Age of Enlightenment was thus characterized by “a decline in mysticism, of growing hope for life and trust in effort, in commitment to inquiry and criticism, of interest in social reform, of increased secularism, and a growing willingness to take risks.”⁷ This, which Gay suggests was a ‘recovery of nerve’ of sorts, also marked the clear ambition of the Age of Enlightenment – an ambition which, in Descartes’ words, was nothing less than to make men the “masters and possessors of Nature.”⁸

The decisive break between the medieval philosophers and those of the Enlightenment was not centered on the role and criticality of Reason-as-such. Rather, it was on the extent and scope of Reason. While for the medieval philosophers the limit-horizon of Reason was the divine, for the Enlightenment philosophers, Reason was the “tribunal before which all disputes, all differences, were to be resolved.”⁹ Thus,

⁵ Ibid, p 236

⁶ Ibid, p 236

⁷ Peter Gay, *The Enlightenment: The Science of Freedom*, (London: W.W. Norton & Co., 1996), p 6

⁸ Quoted in Gay, *The Enlightenment: The Science of Freedom*, p 6

⁹ Ibid, p2

...[T]he advance of knowledge...meant the advance of reason. In the course of the eighteenth century, the world...was being emptied of mystery. Pseudo science was giving way to science, credence in the miraculous intervention of divine forces was being corroded by the acid of skepticism and overpowered by scientific cosmology. The sacred was being hollowed out from within by the drying up of religious fervor, the call for good sense, the retreat from Augustinian theology...and the advance of rationalism...¹⁰

In this sense, the Age of Enlightenment fractured, in more ways than one, the divine-based reality that the discourse of the Age of Religion had etched out. Yet, despite this ‘fracturing’, the Reality that Reason itself constructed began to assume a universal nature and character and, in this sense, displayed an uncanny resemblance to the ‘condition of the divine’ of the Age of Religion. Thus, for example, Brinton models the Enlightenment (though with a number of caveats) by pointing to “an optimistic, this-worldly belief in the power of human beings, brought up rationally from infancy on as nature meant them to be, to achieve steady and unlimited progress...[which results in]...persons free from prejudice and compelled by reason – a compulsion to which they freely submit...”¹¹

Now, Gay, in his interpretation of the Enlightenment, suggests that “the Enlightenment was not an Age of Reason but a Revolt against Rationalism...[and that the Enlightenment’s claim]...was in no way a claim for the omnipotence of reason...[contrarily, it was]...a political demand for the right to question everything, rather than the assertion that all could be known or mastered by

¹⁰ Peter Gay, *The Enlightenment: The Science of Freedom*, p 6

¹¹ Crane Brinton, “Enlightenment,” in *The Encyclopaedia of Philosophy*. Ed. Paul Edwards, (New York: MacMillan Publishing Company, 1967), 4 Vols. Vol 2. pp 519-25

rationality.”¹² Schoules, however, points out, given the well-known antipathy that the *philosophes* had towards Descartes’ ‘style of metaphysics’, that while there is ‘a grain of truth’ in Gay’s assessment,¹³ Gay’s assessment “fails to recognize that the talk of “omnicompetence of criticism” is itself a manifestation of the “omnipotence of reason”, at least in its analytic function.”¹⁴ As evidence, Schoules points to, among others, Condorcet who, referring to Descartes, said: “...he had understood that it [‘the right method’] must be derived entirely from those primary and evident truths which we can discover by observing the operations of the human mind.”¹⁵ In the context of this study what is important to note is that this “metaphysical method” was a “universal method” and was therefore “applied to all the various undertakings of the human understanding” so that “every branch of knowledge” was “subjected to analysis”.¹⁶

The Cartesian methodology – premised on the Cartesian Self - was essentially schematic in nature in so far as it enabled the creation, maintenance and expansion of a tabular form of representation - a *universal mathesis*. While it may not have been as dogmatic as the mechanistic rationalists – as Descartes’ provision for a God and other ‘innate truths’ seems to indicate - it did construct, or at least lay out, the conditions in which ‘an ordering of things’ took place. In this sense, it was also a critical co-constitutive of not simply a rationale, or a

¹² Peter Gay, *The Enlightenment I: The Rise of Modern Paganism*, p 141

¹³ Peter A. Schoules, *Descartes and the Enlightenment*, (Edinburgh: Edinburgh University Press, 1989), p 69

¹⁴ *Ibid*, p 67

¹⁵ Condorcet, *Sketch for a Historical Picture of the Progress of the Human Mind*, Trans. June Barraclough, (New York: Noonday Press, 1955), p 132

¹⁶ Peter A. Schoules, *Descartes and the Enlightenment*, p 67

reason, but also of the Real.¹⁷ This notion gathered increasing strength as the Enlightenment matured and its impact may be gauged by recognizing that, as Sallis puts it, “[R]ecourse to reason in the face of crisis...is a strategy deeply embedded in the Western tradition. More precisely, it defines the turning by which this tradition was founded and constituted.”¹⁸

Post the French Revolution - in the wake of the Reign of Terror and the Napoleonic Empire - this Reason-centric Cartesian discourse lost much of its sheen due to the increasing inability of Reason to explain and account for the slippages that were perceived in Reality. The trajectory of this development – the recognition of the slippages occurring within the overarching schema of a *universal mathesis* and its disciplinary sub-sets to represent Reality - is most discernable in the development and growing maturity of the natural sciences. Thus, for example, it was widely held that “[T]he [new] privileges accorded to observation...provided a model of rationality; since it had proved possible, by means of experimentation and theory, to analyze the laws of movement or those governing the reflection of light beams...”¹⁹ This optimism also spurred the attempts to understand the more complex realm of living beings by the methods of experimentation, calculation and observations. The hope was to abstract out of this scientific methodology, the laws that governed this realm of living beings. Yet, as Foucault brilliantly demonstrates, matters were not so simple. While

¹⁷ Michel Foucault, *The Order of Things – An Archeology of the Human Sciences*, (London, UK: Routledge Classics, 2003) (especially the section on Classification)

¹⁸ John Sallis, *The Gathering of Reason*, 2nd Ed., (New York: SUNY Press, 2005), p 1

¹⁹ Foucault, *The Order of Things*, p 136.

method and structure – both subsets of a *universal mathesis* and the veritable tools of the rapidly growing disciplines - were able to answer many questions they were found to be rather inadequate, especially in the field of natural history, while attempting to deal with issues like the ‘character’ of species and the case of ‘catastrophe’.²⁰

The critical issue, in this context, was language. It will be appreciated that in the context of the *universal mathesis* and the emergence of disciplines, the thread that bound the unity of the disciplines was a ‘universal language’, more accurately, a discourse, that could represent the reality that the *universal mathesis* claimed to represent.²¹ Yet, issues like ‘character’ and ‘catastrophe’ generated increasing concerns about the ability of the signifier-signified structure of language to represent aspects of Reality. To be able to contend with this situation, it was found that there was an increasing tendency to modify the representational character/ nature of Reality by appealing to the Imagination. This was, according to Foucault, addressed by highlighting the phenomenon of ‘continuity’. Thus we find, “in the eighteenth century, the continuity of nature is a requirement of all natural history, that is, of any effort to establish an order in nature and to discover general categories within it, whether they be real and prescribed by obvious distinctions or a matter of convenience and quite simply a pattern produced by our imagination.”²²

²⁰ Foucault, *The Order of Things*, pp 139-164.

²¹ Peter A. Schoules, *Descartes and the Enlightenment*, p 70

²² Michel Foucault, *The Order of Things*, p 160.

While the explicit faith in the efficacy of Reason seemed to have been tempered – this happening by the eighteenth century - there always remained an implicit confidence in the foundations that had been originally constructed on Reason. It remained constant even during the Romantic Age. Thus, for example, post 1840, with the dramatic advances in the natural sciences, there was a reversion to the mode of disciplinarity. This movement was underpinned by not only the resurgence of the natural sciences, but more importantly, and as Foucault shows, by the emergence of institutions which codified these disciplines and which thereafter rigidly controlled the production of knowledge. Thus, this was not simply, as Gat characterizes it, the ‘return to the culture of the sciences’. It was much more than a mere return – it was a (re) discovery of ‘discipline not simply marked by a renewed interest in science, but also by the emergence of networks of institutions, which invested the word ‘discipline’ with a more profound meaning.’²³

It is important to note that in the context of the above discussion, the central element that empowered the rationalistic Cartesian discourse was the Cartesian conception of the Self and the implicit but radical reflexivity that was operative within it. This reflexivity was based on a dualism which was very distinct from the dualism proposed by Plato.²⁴ It worked by taking a ‘disenchanted’/ ‘a-enchanted’ or ‘objective’ view of the ‘body’ by affirming the

²³ See, Michel Foucault, *Discipline and Punish: The Birth of the Prison*, (London: Penguin Books, 1991). Particularly see, pp 135-228

²⁴ Charles Taylor, *Sources of the Self – The Making of the Modern Identity*, (Cambridge, UK: Cambridge University Press), p 145.

immaterial nature of the soul.²⁵ Thus, as Taylor puts it, by repudiating a Cosmic order of things, as Plato had done, which enabled the realization that an individual's "true nature was a supersensible soul...[by turning to]...supersensible, eternal, immutable things...[thus] seeing and understanding the things which surround [the individual] as participating in the Ideas which give them being"²⁶, the Cartesian conception began from the premise that there was no pre-ordained *a priori* 'order of Ideas' and maintained that "understanding physical reality in terms of such is precisely the...confusion between the soul and the material..."²⁷ Postulating in this way the 'separateness' of the body from the soul also enabled Descartes to provide a radically new and different understanding of Reason and its hegemony over (bodily) passions.²⁸

This understanding of Reason - premised on a particular conception of the Self - which enabled seeing the world from a 'disenchanted' stance, in turn, allowed for an understanding of the world as a domain of potential instrumental control.²⁹ It is at this point that Reason also began to be understood procedurally

²⁵ Ibid., p 146.

²⁶ Ibid., p 145.

²⁷ Ibid.

²⁸ See, for example, Rene Descartes, *Discourse on Method and Meditations on First Philosophy*, Trans. Donald A. Cress, (Indianapolis: Hackett Publishing Co., 1980), pp 89-100

²⁹ It is interesting to note here that Taylor attributes the mode of 'disenchanted engagement' to Descartes. He quotes a letter from Descartes to Elizabeth in this context, while offering the following explanation – "The proper stance is a detached engagement...we try to attain the best, but that we be satisfied with what we get." (Taylor, *Sources of the Self*, p 151) It is important to note Taylor's interpretation of Descartes' letter and his understanding of it. Taylor's presentation of Descartes' alleged 'disenchanted engagement' is not akin to 'desire-less action' as presented in the Bhagavad-Gita. Descartes, according to Taylor, suggests that Desire is under the control of Reason, which is kept in check by Reason – this being a signature of Reason's instrumental function. Thus, if what Desire desires is not achieved by rational action or action guided by Reason, then another aspect of Reason comes into play which keeps Desire in check. (Taylor, *Sources of the Self*, p 151) This is very different, among other things, from an ontological point of view of

and in terms of the standards by which the orders of science and life were, constructed.³⁰ Taylor makes the point well when he says, “For Plato, to be rational we have to be right about the order of things. For Descartes rationality means thinking according to certain canons. The judgment now turns on properties of the activity of thinking rather than on substantive beliefs which emerge from it.”³¹ By the eighteenth century, however, there was another transformation and this involved extending the concept of truth and philosophy and “[T]he attempt to solve the central problem of [the] philosophic method” which, according to Cassirer, “...[involved] recourse to Newton’s ‘Rules of Philosophizing...’”³² Contra the Cartesian method of beginning with a set of principles, the Newtonian method relied heavily on, what Cassirer calls, “the data of experience”.³³ Then, by following the method of rigorous analysis, a set of principles would be arrived at whose applicability would be universal. It is curious to note that while Cassirer marks the difference in orientation between the Cartesian and the Newtonian models of methodology, he also points to the commonality of the goals and basic presuppositions of the Cartesian and Newtonian methods, namely, the presence of universal order and law in the world. This universality of order – both as a premise and the goal of the Cartesian and Newtonian systems – also implied that facts were not merely a ‘jumble of discrete elements’, contrarily, they exhibited

the ‘desire-less actions’ suggested by the Bhagavad-Gita. For a fuller discussion on the desire-less action as presented in the Bhagavad-Gita, see below.

³⁰ Taylor, *Sources of the Self*, p 156.

³¹ Ibid.

³² Ernst Cassirer, *The Philosophy of the Enlightenment*, Trans. F. C. A. Koelin, Ed. By J. P. Pettegrove, (Princeton: Princeton Univ. Press, 1968), p 7.

³³ Ibid.

an all pervasive form.³⁴ Thus, between the Cartesian and the Newtonian systems, the core difference was one of methodology, though the aim remained the same. While the Cartesian system took as its premise a universal order and proceeded to reinforce that premise by the methods of rigorous induction, the Newtonian system began by examining phenomena and then proceeded to establish the general principles which, like the *a priori* stance of the Cartesian method, also resulted in the affirmation of a universal order.³⁵ This methodological shift was critical in the sense that it based the notion of a universal order within a framework which, while being critical of the implied dogmatism of the Cartesian system and sharply distinguishing between the Cartesian ‘love of the system’ from the Newtonian ‘value of the system’, nevertheless served, perhaps unwittingly, to treat thinking in terms of a system as a dogma itself.³⁶

Classical Military Theory – A Juridico-Political Overview

Given this lineage, it is not surprising that the phenomenon of War was also influenced by the metaphysical constructs of the Enlightenment. It was recognized that War, which was after all a human activity, was “ruled by

³⁴ Ibid., p 8

³⁵ Note: Earlier, on page 42, quoting Taylor, we had noted that “the Cartesian conception began from the premise that there was no pre-ordained *a priori* ‘order of Ideas’...” (Taylor, *Sources of the Self*, p 145). Superficially, this may seem to be at variance with the assertion being made here that the Cartesian system did have an *a priori* ‘stance’. It will be appreciated that the *a priori* order of Ideas that Taylor is referring to is that of Plato, which, in the context of Descartes, should be understood as the Divine, which Descartes was attempting to suborn. This, however, does not contradict the ‘other’ *a priori* that Descartes did invoke – the Cartesian notion of the Self.

³⁶ Cassirer notes two examples from the 18th Century – that of D’Alembert and Condillac making this distinction. D’Alembert, in the “Preliminary Discourse” to the French Encyclopedia makes this d that distinction the central point of his argument and Condillac in his “Treatise on Systems”, gives it explicit form and justification. See Cassirer, *The Philosophy of the Enlightenment*, p 8.

'arbitrary traditions', 'blind prejudices', 'disorder and confusion'...All these had to be replaced by critical analysis and systematic schemes which [could] be understood in definitive and universal terms, largely overriding circumstantial differences and historical change."³⁷ This signaled "the shift towards a representation of the soul and its activities in terms structured by thought about the material world and sometimes even in material terms."³⁸ The consequence of this was to strongly emphasize on individual human agency in moral conduct, economic activity and politics and from this to draw conclusions about human nature.³⁹ This found its most explicit manifestation with the question of law.

Roger Smith asserts that there were two generalized orientations to law. The first was the view that held law to be intrinsic to the divine order of things, while the second view held that it was a human construction. The tension between these two apparently conflicting views manifested itself in the contradictory pressures which law faced to make itself systematic and practical. In the sixth century, the Byzantine Emperor, Justinian, drew up what is considered the greatest contribution of Rome to western civilization – Roman Law - embodied in the *Digest* and the *Institutes*, which he decreed were not to be commented on. Yet, according to Smith, medieval scholars had proceeded to do just that. By the sixteenth century, "the techniques and ethos of humanist scholarship created a vast amount of jurisprudence to accompany these inherited laws."⁴⁰

³⁷ Gat, *A History of Military Thought*, p 30.

³⁸ Roger Smith, *The Fontana History of the Human Sciences*, (London, UK: Fontana Press, 1997), p 84.

³⁹ Ibid.

⁴⁰ Ibid., pp 85-86

Simultaneously, the tradition of English common law (i.e., custom) not only affected this development of jurisprudence, it also influenced the question of whether jurisprudence should be understood in terms of a rational discipline. By the seventeenth century there occurred a shift in the prevailing medieval jurisprudence in terms of three basic categories – the category of the person, the category of things and the category of actions. At once, one can see how the concept of the individual (that is the person with a body, property and free will) assumed a position of central importance. It is also significant to note that “...Christianity reinforced this articulation of the person, since faith held that a person is the possessor of an individual divine soul.”⁴¹ This notion of the individual bearing the characteristics of body, property and free will, in turn, found its equivalent in the notion of the State, which was considered to also possess a body, property and free will. This resulted in the great debates that began from the seventeenth century which had, as their central feature, the question of the identity of that which formed the ‘body politic’ (the tussle circled between three poles – the monarch, the prince or the representation of people⁴²). Thus, one can see how the search for “causes in jurisprudence and natural philosophy led to...[the] attempts to rationally understand history and nature *and* empirically to discover historical and physical agencies.”⁴³ This reflected the shared Cartesian-Newtonian methodologies of observation and experience which further underlined the attention to Reason and universal realities.

⁴¹ *Ibid.*, p 87.

⁴² *Ibid.*

⁴³ *Ibid.*, p 89.

While not strictly within the time-frame commonly ascribed to the Enlightenment, Hugo Grotius remains an influential jurist and scholar, especially when investigating questions pertaining to war.⁴⁴ The chaotic and savage Thirty Years' War provided the background against which Grotius wrote his *The Rights of War and Peace* (1625). Grotius considered the effects of the Thirty Years' War – civil anarchy, military stalemates and the potentiality of widespread unending wars – as being damaging and sought to establish some common grounds on which humanity could agree upon. Deeply influenced by Galileo's geometry (as Descartes was), Grotius reacted against the political uncertainty of his times and affirmed the ideal of moral philosophy as being logical, consistent and systematic. His bid to create the common ground of humanity began with his attempt to give an account of human nature. Grotius posited that regardless of all else that may divide Man, there was one common link that linked all of humanity - the principle of self-preservation.⁴⁵ This common link, Grotius, suggested, was highlighted by the fact that Man could not, if acting within Reason, violate this principle. In other words, Man could not imperil his own self. Certainly there could be actions undertaken that would or could undermine self-preservation, however, they would be, according to Grotius, irrational acts.⁴⁶ This allowed Grotius to further suggest that the common link of humanity was not simply self-preservation, but self-preservation informed by Reason, which he glossed by asserting that "Love, whose primary force and action are directed to self-interest, is the first principle of

⁴⁴ Richard Tuck, *The Rights of War and Peace: Political Thought and the International Order from Grotius to Kant*, (London: Oxford University Press, 2001), p 78.

⁴⁵ Hugo Grotius, *De Iure Praedae Commentarius*, I Trans. Gladys L. Williams and Walter H. Zeydel, Carnegie Endowment for International Peace, (Oxford: Oxford University Press, 1950), pp 10-11

⁴⁶ Tuck, *The Rights of War and Peace*, p 100

the whole natural order.”⁴⁷ This, for Grotius, was the universal human reality. It is important to note that knowledge of this reality was the corner-stone of conduct, not only of Man but also of States.⁴⁸

Further, Grotius, using the argument of self-preservation (informed by Reason) being the universal human reality, was able to suggest that the individual had the right to pursue his/ her own self-interest provided it did not impinge on the self-interest of others and in this manner, he was able to turn the theory of natural law from its medieval focus on duty, which was based on a conception of the divine construct of nature (including Man) to one of ‘rights’.⁴⁹ By stating this Grotius, was also making a significant comment on a particular attribute of man – his inherent sociability. It should be noted that Grotius’ formulation of Man’s nature in terms of self-preservation and the centrality of Man’s attributes would form the base on which individualist thought about human nature and government would evolve.⁵⁰ The result of Grotius’ formulations would also set the agenda for the ‘just war’ concept and would prove to be another manifestation of the instrumentalization of war. Post Grotius, therefore, war became increasingly understood as the means by which self-interest was served *and* the self was preserved. The significant caveat, however, which served to check the wanton-

⁴⁷ R. Tuck, “The ‘Modern’ Theory of Natural Law”, in A. Pagden (Ed.) *The Languages of Political Theory in Early Modern Europe*, (Cambridge, UK: Cambridge University Press, 1987), p 113. Quoted in Roger Smith, p 91. See also Richard Tuck, *The Rights of War and Peace*, p 86.

⁴⁸ Tuck, *The Rights of War and Peace*, p 88-89

⁴⁹ Grotius, *De Iure Praedae Commentarius*, I, p 18.

⁵⁰ Smith, *The Fontana History of the Human Sciences*, p 92.

ness of war, as witnessed by Grotius himself, was the underlying presence of Reason, which would inform self-interest and self-preservation.

This sentiment was also echoed by the Swiss diplomat and lawyer, Vattel, the author of *The Law of Nations* (1758), who “offered a guide to two critical questions: (1) Are there legitimate causes for war and (2) Could war be regulated by rules or laws that limit the severity of impact on humanity?”⁵¹ Vattel concluded that ‘lawful’ war was distinguished by certain easily identifiable objectives – recovery of belongings, exacting dues, providing security and self-defence. The stark continuation between the thoughts of Vattel with those of Grotius and, as we shall see, of Hobbes, is manifested by his ascribing the principle of self-defence as a natural law. Thus, Vattel states, “...we have shown that nature gives men a right to employ force, when it is necessary for their defence, and for the preservation of their right. This principle is generally acknowledged: reason demonstrates this; and nature herself has engraved it on the heart of man...”⁵² Aside from reaffirming the intrinsic Reason-centric nature of Man, Vattel’s formulations were also instrumental in defining the standards which would govern war. More importantly, Vattel held the view that the ‘*object*’ of war was to do whatever is necessary to bring (Vattel uses the word ‘reduce’) an opponent to ‘reason’.⁵³ This is of particular interest to us because with this

⁵¹ Armstrong Starkey, *Warfare in the Age of Enlightenment, 1700-1789*, (Westport, CT: Praeger Publishers, 2003), p 17.

⁵² Emmerich von Vattel, “Of War,” in *The Laws of Nations, or, the Principles of the Law of nature, Applied to the Conduct and Affairs of Nations and Sovereigns*, Ed. Joseph Chitty, (Philadelphia, PA: T and J. W. Johnson, 1861), p296, 302. Quoted in Armstrong Starkey, *Warfare in the Age of Enlightenment*, p 17.

⁵³ See Emmerich de Vattel, *The Law of Nations or the Principles of Natural Law* (1758). Book 3, Chapter 3, # 26. Available at <http://www.lonang.com/exlibris/vattel/>

statement Vattel implied that the participants of a war were bound to be subject to Reason and when that equilibrium failed, it presented a condition wherein the party that broke the bounds of Reason could be subjected, by acts of force, to return to the fold of Reason and, thus, how Reason provided the overarching fold within which 'security' was not only possible but also guaranteed.

Grotius' formulation of self-preservation informed by Reason also had its parallel in Hobbes' attempt to find a rationale for an ordered civil society. However, Hobbes' conclusions were very different and they, in no small part, contributed to the 'modern' understanding of war. Being heavily influenced by Descartes (and Gassendi), Hobbes was of the view that "...Science is the knowledge of Consequences, and dependence of one fact upon another: by which, out of that we can presently do, we know how to do something else when we will, or the like, another time..."⁵⁴ Further, he shared, with Descartes and Gassendi, the view that nature is made up of small particles of matter in motion. This attribution of corporeality to nature enabled him to argue that the world, including human nature, is material. Given his views on science and the corporeality of nature, Hobbes was then able to posit that human actions, specifically, self-preservation, could be explained in the same manner as the motions of physical particles. His explanation for the actions of Man as being synonymous with the movement of particles allowed him to provide a ready explanation for the violence that was visible in common human interactions. He suggested that it was the natural and unbridled drive of individual self-preservation that led every man to strive to

⁵⁴ Thomas Hobbes, *Leviathan*, Ed. J. C. A. Gaskin, (Oxford, UK: Oxford University Press, 1998), p 31.

establish power over others. This inevitably would lead to a conflict-ridden scenario, which reflected the political condition within which Hobbes found himself. Understanding human acts in terms of pain and pleasure, Hobbes then suggested, would only serve to explicate the supposed mysteries of human action. Instead of appealing to any transcendental reasons, Hobbes simply suggested that since human acts were guided by the sensations of pain and pleasure, these sensations also provided the adequate provocation to either engage or to not engage in acts.⁵⁵ Working from this premise, Hobbes was thus able to postulate that "...were the nature of human actions as distinctly known as the nature of quality in geometrical figures...mankind should enjoy...an immortal peace."⁵⁶ But how was this 'immortal peace' to be achieved?

Hobbes exhorted his readers to engage in observing and comparing what we observe in others with what we observe in ourselves. This observation would lead us, Hobbes thought, to recognize the instrumentality of Reason in governing the passions which, if unchecked by the rule of Reason, would lead to a condition of conflict. Recalling in this context Hobbes' conception of Man as a particle propelled by nature to seek self-interest (which necessarily includes self-preservation), we find that the Hobbesian formulation of sociability was not the same as the Grotian construct. For Hobbes, sociability was not a natural condition - it was an artificial construct which depended wholly on the observation of how

⁵⁵ Ibid., pp 33-36

⁵⁶ G. Rossini, "The Criticism of Rhetorical Historiography and the Ideal of Scientific Method: History, Nature and Science in the Political Language of Thomas Hobbes" in A. Pagden (Ed.) *The Languages of Political Theory in Early Modern Europe*, (Cambridge, UK: Cambridge University Press, 1987), p 113.

contradictory self-interests of individuals held the potentiality to negate their core self-preservative tendency, which to Hobbes was the natural condition. This condition Hobbes described in dramatic terms: "...it is manifest, that during the time men live without a common power to keep them all in awe, they are in that condition which is called war; and such a war, as is of every man, against every man..."⁵⁷ To escape this condition of war, Hobbes posits, what he calls a 'general rule of reason', by which, "every man ought to endeavor peace, as far as he have hope of obtaining it..."⁵⁸ Hobbes' corollary to this was that if a man is unable to achieve peace, then he should defend himself by all means. To Hobbes, this was the fundamental rule of nature. However, he was astute enough to derive a further law which stated that "a man be willing to, when others are so too, as far-forth, as for peace and defence of himself he shall think it necessary, to lay down this right to all things; and be contented with so much liberty against other men, as he would allow other men against himself."⁵⁹ This may be considered as being an originary point for the Hobbesian notion of 'the contract'. But the culmination of the Hobbesian project was in his formulation of the Leviathan, which was that "common power to keep...all in awe." It is not surprising that the Hobbesian Leviathan worked from a number of common premises of the seventeenth century. The first was the mechanistic conception of the Leviathan described by Hobbes in the language of mechanical things. The second was the consideration of the Leviathan as a body-politic. And, the third was the underlying role of Reason – both for constructing the civil man and the Leviathan. Thus, as Roger

⁵⁷ Hobbes, *Leviathan*, p 84.

⁵⁸ *Ibid.*, p 87.

⁵⁹ *Ibid.*, p 84.

Smith points out, Hobbes made “the link between mechanical technology and political technology.”⁶⁰ He also restated the mechanistic and materialistic categories for a new science of Man.

The theories of Grotius, Vattel and Hobbes, mentioned here solely as illustrative examples, thus served two purposes. First, they reduced war to a function that found its meaning within the context of the body-politic and second, they reinforced the possibility of war to be understood, if not strictly in mechanical terms, at least in rational terms. A gradual, but unmistakable, instrumentalization of War was underway.

Classical Military Theory – An Evolutionary Overview

The reconfiguration of Reality by Reason, which was underwritten by a conception of a rational Self, afforded the military intellectuals and theorists of Age of Enlightenment the opportunity to introduce mathematical precision and certainty to the study of war. Yet, the influences of the neo-classicism of the arts of the seventeenth century retained some of their potency. Thus, for example, Folard, identified three themes which characterized the development of military thinking in the Age of Enlightenment. First, an admiration and attention to Classical Greek and Roman military practice, which served as ready and exemplary military models during the Enlightenment. This was also indicative of the emphasis given on the methodology of historical observation and the

⁶⁰ Smith, *The Fontana History of the Human Sciences*, p 108.

dispelling of any concerns about the notion of historical change. Second, the consideration of war as a science and the attempt to identify rational and universal principles governing the conduct of war, and third, the recognition of the 'military spirit' or what might be considered as the psychological foundations of war.⁶¹ Thus, while the tendency to cast the study of war into a set of definitive and universal principles grew stronger, there was also a tacit recognition that a part of the conduct of war (that is, the methodology of war) would remain outside the efforts of formalization. These variables, which remained outside the efforts of formalization, were entrusted to the care of the Commander who would be the primary instrument to apply the formalized principles of war to specific situations. Yet, despite the recognition of the critical role of the commander in the context of war, the attention of the military theorists of the Enlightenment remained focused on developing and articulating a very definite system of war.

This is best illustrated in the words of De Saxe:

...before enlarging too much upon the elevated [*elevees*] parts of war, it will be necessary to treat of the lesser, by which I mean the principles [*principes*] of the art...As in architecture for example, the knowledge of the fundamental principles is a prerequisite to the operation of genius.⁶²

⁶¹ In this connection, it is important to note that Folard may be considered as being one of the first thinkers of the Enlightenment to apply *l'esprit philosophique* to war. See Starkey, *Warfare in the Age of Enlightenment*, 1700-1789, p 34.

⁶² Quoted in Gat, *A History of Military Thought*, pp 34-35. See also Michel Foucault, *Discipline and Punish – The Birth of the Prison*, (London, UK: Penguin Books, 1991), p 139.

It is significant that De Saxe's work, *Reveries on the Art of War*, (published, 1756), despite being dismissed not only by himself as being 'irregular and inelegant' (which may be attributed to that period's customary literary gesture), and by Jomini (whom we shall consider at some length below) as being a failure as it was, according to Jomini, not universal and definitive, was a comprehensive treatise on war. In it, De Saxe, advanced a number of original ideas but the most valuable contribution that he made was to subject "military affairs to reasoned criticism and intellectual treatment, and the ensuing military doctrines were perceived as forming a definitive system."⁶³ Even preceding De Saxe's work, however, was the *Art of War by Principles and Rules* (published, 1748), by Marquis de Puysegur – which was commented on and reviewed by De Saxe. In it, Puysegur attempted to formulate a "universal theory of war...derived from historical observation".⁶⁴ Dismissing the claims that historical change influenced the conduct of war, Puysegur contended that far from being irrelevant, warfare during the times of antiquity was more than relevant for his age and times. Decrying the call that warfare of his age was a 'new' form of war, he suggested that "despite all the changes in armament, the science and art of war remained the same at all times. Expressing neo-classical conceptions, Puysegur emphasized that the successes of all the great generals throughout history had been the result of adherence to the universal rules of war."⁶⁵ In addition to the method of 'historical observation' engaged in by Puysegur which, we should note, follows from the original Cartesian-Newtonian construction of Reality by the

⁶³ Gat, *A History of Military Thought*, pp 34-35

⁶⁴ *Ibid.*, p 36.

⁶⁵ Quoted in Gat, *A History of Military Thought*, p 36.

methodology of observation informed by Reason, Puysegur also gave expression to a more immediate ideal of the Enlightenment – esprit geometrique (the spirit of geometry).

↳ esprit geometrique

Picking up on the celebrated works of Vauban, Puysegur, focused on siege warfare. In the late seventeenth and eighteenth centuries “sieges were far more frequent than pitched battles...They were the focal operations of a campaign...”⁶⁶ Vauban’s work was developed in this context and he “perfected the geometrical system of fortifications and also developed a highly effective method of attacking fortresses. This was a systematic and uniform procedure that achieved an almost certain breakthrough with little bloodshed.”⁶⁷ Puysegur reasoned that if siegecraft could be made universal and scientific (more precisely, geometrical), as Vauban had done, the same could also be done for field warfare. This would imply emphasizing on the application of the disciplines of geometry and geography to war. Given that armies operated in space and that geography provided the concrete knowledge of that space, geometry was held to provide the precise instruments for analyzing and regulating movements of the armies within it. The performance of the Prussian Army in the Seven Years War and the generalship of Frederick the Great was to direct a great deal of attention to its organization and doctrines. While the generalship of Frederick the Great was attributed to his genius, which could not possibly be studied, the operational art of the Prussians was given a very close scrutiny. In the attempt to better understand

⁶⁶ Henry Guerlac, “Vauban: The Impact of Science on War” in Peter Paret, Ed. *Makers of Modern Strategy – From Machiavelli to the Nuclear Age*, (Princeton, MA: Princeton University Press, 1986), pp 73-74.

⁶⁷ Gat, *A History of Military Thought*, p 37.

the perfection achieved by the Prussians in “mechanically...firing and maneuvering of linear formation[s] operating in close order”⁶⁸, leading French Enlightenment thinkers began to reexamine the lessons from antiquity. Maizeroy maintained that...

...though the invention of powder and of new arms have occasioned various changes in the mechanism of war, we are not to believe that it has had any great influence on the fundamental part of that science, nor on the great maneuvers. The art of directing the great operations is still the same.⁶⁹

While this reinforced the essential methodology of Puysegur of looking back into antiquity for the universal principles of war, Maizeroy was also instrumental in giving a fresh impetus to the concept of ‘tactics’ which, in the context of the Enlightenment, was understood as a system of army organization and battle formation. It should be noted that the military thinkers of the Enlightenment “tended to look upon the conduct of armies on the battlefield predominantly as a product of their battle formation and related doctrines, ‘tactics’ also implied the conduct of battle itself.”⁷⁰ Thus, Maizeroy’s focus was on the search for the perfect system of tactics. By relying on a close analysis of historical data and explicitly referring to the Pythagorean philosophy which held that numbers underlay all phenomena, Maizeroy maintained that military formations had to be based on the correct choice of the universal numbers that insured flexible internal

⁶⁸ Ibid., p 40

⁶⁹ Maizeroy, *A System of Tactics*, (London, UK: 1781), quoted in Gat, *A History of Military Thought*, p 42.

⁷⁰ Gat, *A History of Military Thought*, p 43.

division and maneuver⁷¹ thus reiterating, albeit in a fresh sense, the *universal mathesis*, that underlay, among other things, not only the art of war (as explicated in military theory), but also in the phenomenon of war.

In addition, Maizeroy, influenced by his studies of Emperor Maurice and his military treatise, *Strategicon*, deployed the word ‘strategy’ (which he derived from the Greek word ‘strategos’) with specific reference to the operational conduct of war. It is important to note that while Maizeroy may be credited with the first modern usage of the term ‘strategy’, it was von Bulow, who “divided the conduct of operations between strategy and tactics in the sense which is known today.”⁷² Maizeroy held the view that while ‘tactics’ - which was concerned with “...the respective position of men who make up a troop in relation to that of the different troops that make up an army, their movements and their actions, their relations with one another”⁷³ – could be reduced to a firm set of rules and principles, ‘strategy’, which was the operational conduct of war, demanded the deployment of what he termed ‘the most sublime faculty of mind...reason’ since it depended on physical, moral and political circumstances.⁷⁴ While Maizeroy attributed to these circumstances the fluidity of change, which he considered wholly within the domain of what he called the Genius, he nevertheless extracted and presented some ‘rules of strategy’ which bear a remarkable congruence to

⁷¹ Ibid.

⁷² Ibid., p 44.

⁷³ Maizeroy, quoted in Michel Foucault, *Discipline and Punish*, p 168.

⁷⁴ Maizeroy, Quoted in Gat, *A History of Military Thought*, p 44

what is today understood as 'the principles of war'.⁷⁵ Despite the inklings of the role of the Genius in war and the consideration of the operations of war in terms of strategy, the focus of the military thinkers of the Enlightenment, however, remained fully on tactics and the firm principles which would provide a definitive system of conducting war.

A Kehr to the In-Human

The greatest impact during this stage of the development of the sciences of the military, however, was felt with the publication of *A General Essay on Tactics* in 1772. Written by a young nobleman, Guibert, the book trumpeted two basic themes. The first was the demand of a citizen army and the second was the call for a war of maneuver.⁷⁶ Guibert, breaking away from the precedent set by Maizeroy, considered the two thematic elements of his book under the single label, *tactique*. As we have seen, the word 'tactics', in a general sense involved the maneuvering of troops and at that time included within its ambit both, what Maizeroy had identified as 'strategy' under the label of 'grand tactics', and the unit level movements, which we today understand by the term tactics.⁷⁷ Guibert, however, rejected this constriction of meaning of the word 'tactics'. To him, 'tactics' was virtually all of military science and was composed of two elements. The first was the raising and training of armies and the second was the art of

⁷⁵ Gat, *A History of Military Thought*, p 44-45.

⁷⁶ R. R. Palmer, "Frederick the Great, Guibert, Bulow: From Dynastic to National War", in Peter Paret, Ed. *Makers of Modern Strategy*, p107.

⁷⁷ Ibid.

generalship. Guibert's ambition, thus, was nothing less than to raise 'tactics' as "the science of all times, all places and of all arms."⁷⁸ Tactics was thus to be elevated, in Guibert's scheme of things, to the position of a universal truth. Guibert's influence and contribution to the development of military thought is based on the two themes that he forcefully argues in his work and we shall consider both at some length.

At the outset, it must be noted that Guibert's call for a 'citizen army' was in its essence, not a radically new one. The lineage of the call that "military forces...must be composed by the inhabitants of the state that the army is expected to defend"⁷⁹ can be found in the writings of Machiavelli. This call also highlighted the "close connection and interrelationship between political and military institutions", which forms the critical thesis of Machiavelli.⁸⁰ This Machiavellian observation, whose echo can also be found in the works of Montesquieu, Rousseau and Mably, among others, was a familiar doctrine of the Enlightenment. Guibert began his call for a re-evaluation of the military system prevalent in France by drawing attention, like many others of his age, to the "ideal, simple, and vigorous republics of antiquity."⁸¹ Then, following

⁷⁸ Quoted in R. R. Palmer, "Frederick the Great, Guibert, Bulow: From Dynastic to National War", in Peter Paret, Ed. *Makers of Modern Strategy*, p107

⁷⁹ Felix Gilbert, "Machiavelli: The Renaissance Art of War" in Peter Paret, Ed. *Makers of Modern Strategy*, p 26. Similar calls were made by others during this time. See, for example, Joseph Servan's *The Citizen Soldier* (1780) and even Montesquieu's *Reflections on the Causes of the Grandeur and Decline of the Romans* (1734).

⁸⁰ See Niccolo Machiavelli, *The Prince*, Tran. William J. Connell, (New York: St. Martin's Press, 2005). See also his *Art of War*, Trans. Christopher Lynch, (Chicago: Univ. Of Chicago Press, 2005)

⁸¹ Gat, *A History of Military Thought*, p 47.

Montesquieu's articulation of the connection and inter-relation between all aspects of the socio-political fabric, Guibert suggested that...

Politics is naturally divided into two parts, interior and exterior politics. The first is the basis of the second. All of which belongs to the happiness and the strength of a people springs from their sources, laws, manners, customs, prejudice, national spirit, justice, police, population, agriculture, trade, revenues of the nation, expenses of the government, duties [and] application of their produce.⁸²

The result of this analysis of politics led Guibert to suggest that "a comprehensive scientific study of the politico-military sphere must...analyze all these factors in depth."⁸³ This he proceeded to do by looking back into history. Guibert's investigations revealed to him that the great captains of antiquity left behind no 'universal principles' of war, a situation which he found disturbing for it highlighted, what he called, the 'fundamental error' in the science of war. This led him to observe that...

Almost all sciences have certain or fixed elements, which succeeding ages have only extended and developed, but the tactics, till now wavering and uncertain, confined to time, arms, customs, all the physical and moral qualities of a people, have of course been obliged to vary without end and for a space of a century to leave behind nothing else than principles disavowed and unpracticed, which have ever been cancelled and destroyed by the following age.⁸⁴

⁸² Guibert, *A General Essay on Tactics*, p xxi. Quoted in Gat, *A History of Military Thought*, p 48.

⁸³ Gat, *A History of Military Thought*, p 48.

⁸⁴ Guibert, *A General Essay on Tactics*, pp xlvi-xlviii. Quoted in Gat, *A History of Military Thought*, p 49.

To avoid this situation from recurring and in keeping with the dominating view of a universal condition inspired by the scientific ideals, Guibert, once and for all, wanted to base military science on the methods of Newton, Leibnitz and D'Alembert.⁸⁵ Further he insisted that an incorrect methodology was responsible for the chaotic state of affairs that he claimed to have discerned in the field of military science. His observations, in this context, are worth noting:

Let us suppose that the first mathematical truths are taught to a people inhabiting the two extremes of the globe...they must evidently in time arrive at the same result of principles. But has there been in the tactics any clear cut truth demonstrated? Are the fundamental principles of this science established? Has one age ever agreed on this point with its preceding one? But why was there no such work, which could have laid a firm foundation for its principles? It is for this reason that the military have for a long time been ignorant how to analyze the subject...and unacquainted with the method of explaining and arranging their ideas.⁸⁶

It was on this premise that Guibert offered his *A General Essay on Tactics* which would lay down the definitive principles that guided war and its conduct, which he deemed would have universal applicability. Thus, for Guibert, "tactics...would constitute a science at every period of time, in every place, and every species of arms..."⁸⁷ Based on this, Guibert offered his conception of a 'war of maneuver'. In this context, however, while being a proponent of citizen-armies, Guibert did not favour mass armies. "Huge armies he regarded as signs of the ineptitude of

⁸⁵ Gat, *A History of Military Thought*, p 49.

⁸⁶ Guibert, *A General Essay on Tactics*, pp 2-3. Quoted in Gat, *A History of Military Thought*, p 49.

⁸⁷ Guibert, *A General Essay on Tactics*, p 99. Quoted in Gat, *A History of Military Thought*, p 50.

men in authority.”⁸⁸ Decrying the importance of fortifications that had been so valued by Vauban, and later by Maizeroy, Guibert held the view that “forts...should be few, very strong, and entirely auxiliary to strategic movement.”⁸⁹ Displaying an orientation to ‘the offensive’, Guibert then opined that a highly mobile army, “that travels light, living on the country, will gain new mobility, range of action, and power of surprise.”⁹⁰ By positing this Guibert was presenting a trenchant criticism of the French military system in vogue in his time, which favored a large civilian baggage train which only served to encumber the operational status of the fighting force.

Guibert further sharpened his conception of a ‘war of maneuver’ by addressing the developments in the organizational system of the army, especially the divisional system, seriously. Breaking from the system devised by Frederick the Great, who usually deployed his forces by dividing his army and marching them in a way that would enable the parts to come together in a battle line on achieving contact with the enemy, Guibert, strove to sever the link between marching orders and the final battle order.⁹¹ This enabled him to consider whole divisions as columns, which could cover a vast theater of operations and would be instrumental in forcing the enemy to turn to a position of disadvantage relative to the attacker. In Guibert’s view, such an arrangement would allow a battlefield

⁸⁸ R. R. Palmer, “Frederick the Great, Guibert, Bulow: From Dynastic to National War”, in Peter Paret, Ed. *Makers of Modern Strategy*, p 109.

⁸⁹ *Essai general de tactique* (1772) in *Oeuvre militaires du comte de Guibert*, 5 vols. (Paris, 1803), 2:208-20. Quoted in R. R. Palmer, “Frederick the Great, Guibert, Bulow: From Dynastic to National War”, in Peter Paret, Ed. *Makers of Modern Strategy*, p 110.

⁹⁰ R. R. Palmer, “Frederick the Great, Guibert, Bulow: From Dynastic to National War”, in Peter Paret, Ed. *Makers of Modern Strategy*, p 109.

⁹¹*Ibid.*, p 110

commander to go ahead of his troops and to reconnoiter the lay of the land, which would consequently enable him to devise his particular battle-tactics, including the positioning of his independently marching divisions, based on situational specifics.⁹² The result, according to Guibert, would be the realization of a more flexible condition on the battlefield primarily due to the essential pliability of the battle-formations at the hands of an astute commander. While Guibert overtly credits Frederick with having used such a system, especially at the Battle of Hohenfriedberg (1745), it is evident that this system found its closest of expressions in some of the operations conducted by Napoleon.⁹³ In sum, therefore, the system propounded by Guibert was a distinct change from the positional warfare system (based on the system of fortification) to a more flexible system of maneuvering which, more often than not, involved *forcing* the position of an enemy. This *tactique* was certainly not tactical in the sense that we understand the word today. It was, as Clausewitz would put it some years later, an expression of the Absolute logic of War. This state of permanent-offense, which has since been seen in many avatars, such as flexible-offence/ defence, proportionate response, etc. was Guibert's Absolute War – the ideal referent to *being martial*.

Guibert's qualification of this ideal Absolute War was expressed by him in the following terms: "[P]eoples," Guibert asserted, "are indifferent to the fortunes of war, because prisoners are no longer slaughtered in cold blood, and the

⁹² Ibid.

⁹³ For a detailed account of Napoleon's operational and strategic art of war see David Chandler, *The Campaigns of Napoleon*, (New York: Scribner, 1973)

civilians of a conquered province suffer no inconvenience except to pay tribute often no heavier than their old taxes.”⁹⁴ This led him to conclude that the peoples of Europe were all ‘soft’ and that governments which, according to Guibert, were all *despotic machineries* were weak in character. Guibert held little prospect for a change in this scenario. Thus, instead of striving to achieve his ideal, which was a vision wherein he supposed that...

a people should arise in Europe vigorous in spirit, in government, in the means at its disposal, a people who with hardy qualities should combine a national army and a settled plan of aggrandizement...[would be able to]...subjugate its neighbours and overwhelm...weak constitutions like the north wind bends reeds...”⁹⁵

...he settled on a more moderate, but in many ways also more chilling, vision which he recommended to France. “What we must do”, Guibert said, “since we cannot have citizen troops and perfect troops, is to have...troops at least disciplined and trained.”⁹⁶ This tied in directly with Guibert’s conception of a ‘war of maneuver’. For Guibert’s system of maneuver to be successful, he held the view that “[D]iscipline must be made national. The state...will have a simple reliable, easily controllable administration. *It will resemble those huge machines, which by quite uncomplicated means produce great effects...*”⁹⁷ (my emphasis) Thus, Guibert’s vision of a disciplined army was based on a system of national

⁹⁴ R. R. Palmer, “Frederick the Great, Guibert, Bulow: From Dynastic to National War”, in Peter Paret, Ed. *Makers of Modern Strategy*, p 107.

⁹⁵ Ibid.

⁹⁶ Ibid., p 108

⁹⁷ Guibert, *A General Essay on Tactics*, p xxiii-xxiv. Quoted in Michel Foucault, *Discipline and Punish*, p 169.

discipline where “*there is not a single moment of life from which one cannot extract forces, providing one knows how to differentiate it and combine it with others.*”⁹⁸ (my emphasis)

But to attribute this vision solely to Guibert would be simplistic. As Foucault demonstrates, “[F]rom the seventeenth century, to the introduction, at the beginning of the nineteenth century, of the Lancaster method, the complex clockwork of the mutual improvement school was built up cog by cog.”⁹⁹ Against this backdrop, Foucault shows us how “discipline [was] no longer simply an art of distributing bodies...but of composing forces in order to obtain an efficient machine.”¹⁰⁰ Consequent to this, as Foucault highlights, the concept of an intrinsic characteristic defining the individual human body undergoes a considerable shift. In the military context, where the individual body was once considered as the repository of ‘bravery and strength’, under the system of ‘divisions’ proposed by Guibert, it (the individual) was, and continues to be, transformed into a site of regularity and order, thus allowing for its easy manipulation¹⁰¹ in terms of, say, a chronological serialization – time-tabling.¹⁰² This meant that the constituent elements of the division could be organized in terms of a linear conception of time, which would enable each part of the divisional machinery to function like clockwork to produce – in a combinatorial alliance with the other parts of the

⁹⁸ Foucault, *Discipline and Punish*, p 165.

⁹⁹ Ibid. For a fuller description of the Lancaster-Bell method and for a source of case studies in support of Foucault’s assertion, see John S Hassard, “Researching Foucault’s Research: Organization and Control in Joseph Lancaster’s Monitorial Schools”, in *Organization*, Vol. 9, No. 4, 615-639 (2002)

¹⁰⁰ Foucault, *Discipline and Punish*, p 164.

¹⁰¹ Ibid.

¹⁰² Note: It was Napoleon who once said... ‘space we can regain; Time we never recover’.

division – an optimum result.¹⁰³ This would enable the commander on the battlefield to achieve an effective system of command. Thus, the commander would find it necessary to only issue the briefest of commands and would be able to realize the desired output at a desired time at the most propitious moment. One can already see the beginnings of the Deleuzian war-machine in this.

Foucault suggests that the necessity of the constituent elements of this military machine to ‘understand’ commands was overridden by the need to simply recognize signals, which in turn would trigger a prearranged reaction. Casting a perspectival eye on these developments, Foucault suggests that such a system of discipline enabled the emergence of four techniques – the drawing up of tables, prescription of movements, imposition of exercises and the arrangement of tactics.¹⁰⁴ It is important to note that the notion of tactics that Foucault alludes to is the system of tactics that Guibert propounded, which encompasses strategy, operations, tactics (including unit level tactics), in other words, all what we today understand as functionally distinct entities. The implications of this, if we recall Guibert’s introductory analysis of the socio-economic fabric and his notion of ‘national discipline’, are critical. Foucault puts it well, when he states, “[I]n the...eighteenth century states, the army guaranteed civil peace no doubt because it was a real force...but also because it was a technique and a body of knowledge

¹⁰³ Foucault, *Discipline and Punish*, p 165.

¹⁰⁴ *Ibid.*, p 167.

that could project [its] schema over the social body.”¹⁰⁵ Read in this way, Guibert’s *tactique* reveals to us much more than a proto theory of maneuver.

Guibert sought to supplant the theories of positional warfare – siege warfare, the system of fortifications - as propounded by Vauban and later by Puysegur and Maizeroy and others, but he remained fully committed to the core principles that underlined the Enlightenment period. Reason, masquerading as efficiency, mobility, calculation, remained unquestioned. Thus, the tendency to see war as being subject to universal rules and principles that were globally applicable and, as being a particular mode of relationality between nation-states - guided by a set of rules that drew their inspiration from the works of, among others, Grotius, Vattel, and Hobbes – is understandable. But what Guibert’s *A General Essay on Tactics* also demonstrated was how, with the aim to ‘project its (that is to say, Reason’s) schema’, the martial mobilization of Reason began to gradually take place. This, as Foucault points out, was very much evident in Guibert’s notion of a ‘national discipline’. As we have seen, for Guibert, ‘national discipline’ was the necessary pre-requisite that would allow for the machinery of war to take advantage of ‘mobility, range of action, and power of surprise’. The impact of this, as we will see in the context of the present study (and as Foucault has shown elsewhere), has left a lasting impression on military theory. In this sense, Guibert’s contribution to the evolution and development of the military was a landmark effort and, to say the least, ambitious.

¹⁰⁵ Ibid., p 168.

The influence of Guibert's work, specifically in the context of the conduct of war, was visible particularly in the Napoleonic campaigns. As Napoleon was to so vividly demonstrate, mobility, rapidity, and boldness in the conduct of operations; the insistence on reducing the encumbering baggage-train that bogged down the mobility of armies; the solving of logistical problems by resorting to a heavy reliance on the countryside; flexible maneuvering in open columns before deploying into the battle line, and the movement of divisions in independent formations were all indications of the influence that Guibert's theories had on the conduct of war. Indeed, as Gat points out, "Guibert's ideas were practically the basis of the official Ordinance of 1791 with which the armies of the Revolution went to war."¹⁰⁶ But, the Napoleonic campaigns, while apparently vindicating the theoretical postulates of Guibert, also brought to light fresh experiences and challenges. These experiences did not escape the military theorists of the times. They continued to study the problems of war and its conduct meticulously. Simultaneously, the ideals that had informed the French Enlightenment had by now permeated through the European continent. In Germany, this movement was known as the *Aufklärung*.

Mind(ing) the Gap: Between Guibert and Jomini

The space between Guibert's theories on war and Jomini's works is marked by the emergence of a lesser (in terms of profile, but little else) set of military thinkers who working from within, what Gat calls, a "provincial

¹⁰⁶ Gat, *A History of Military Thought*, p 54.

mindset”, developed the ideas propounded by the military theorists of an “Enlightened” France, specifically the works of Guibert. This should not, however, reinforce the view that the output of the military thinkers of the German *Aufklärung* was merely a clone of the French theoretical model. There were subtle but significant differences. Thus, while the primary thrust of the French model was the development of a ‘science’ of the military, which manifested itself as the ‘quest for a definitive formula’ for all matters pertaining to war and the military, the German *Aufklärung* movement, at least initially, did not follow the scientific model as stringently as did the French. This is not to say that the German *Aufklärung* thinkers abandoned the scientific ideal, contrarily, their primary interest was in ‘the broadening of military knowledge’ and its dissemination, especially in the circles of the officer corps.¹⁰⁷

“The emphasis on education – typical of the Enlightenment belief in the ability to transform man and society and in the value of knowledge – was particularly popular during the German *Aufklärung*.”¹⁰⁸ This led writers like Ferdinand Friedrich von Nicolai to react against the strict scientific-methodological program of the French Enlightenment. Thus, von Nicolai suggested that a simple study of the principles that guided the military - as posited by the likes of Guibert - was characteristic of the Enlightenment and that such ‘simplistic’ studies betrayed a significant (to him) deficiency. As a counter to this he suggested that the ‘man’ within the officer (and here it is important to note the

¹⁰⁷ Ibid., pp 56-58.

¹⁰⁸ Ibid., p 63.

restriction of this suggestion by von Nicolai to only the officer corps) needed to be educated.¹⁰⁹ To do this, he suggested, a broad curriculum was necessary. Basic education, which would include religion, art, languages and the classics would be followed by a course of advanced studies that exposed the students to pure and applied science, only after the conclusion of which were the students to be introduced to the specifics of a purely military education, including the study of equipment, organization, armaments, military architecture and tactics. This overarching 'system' of education was further refined by Friedrich Wilhelm von Zanthier, who in his *An Attempt to Study the Art of War* (published, 1775), echoed the tune sung by Guibert. He stated that "if war is to be studied as a science rather than a craft, theory above all must bring order into this labyrinth by clearly defining its various branches."¹¹⁰

Von Nicolai's and von Zanthier's works are just two examples of a set of numerous studies published during this time, all of which concentrated on reaffirming the need to systematize the study of war. Thus, it will be noted that while maintaining the core links with the essentials of the French Enlightenment, the German *Aufklärung* movement, in the military context, also began to propound the need to develop the institutional frameworks within which a structured dissemination of the science of war could be conducted. The understanding of the primacy of education, in particularly specific ways, characterized by the careful delineation of the various disciplines that made up the

¹⁰⁹ Ibid, pp 63-64

¹¹⁰ Ibid, p 65.

science of war began to assume importance. Here again was a reaffirmation of yet another of the Cartesian ideals of understanding reality within the context of structured disciplines of study. In this connection, it is interesting to revisit von Nicolai's primary thesis.

As mentioned earlier, von Nicolai had suggested that it was the 'man' within the officer that needed to be educated. This, when coupled with the vision of 'national discipline' envisioned by Guibert, made for a potent mixture, which would, more than anything else, be instrumental in achieving the regimentation not only of the basic units of an army, but would also provide the elementary tools with which, what Foucault calls, the techniques of discipline would be formulated that would eventually elaborate the procedures by which individual and collective bodies could and would be coerced.¹¹¹ It is within this context that we find a conception of war that owed, in no small part, its origins to the Cartesian model of the Self was beginning to take a definite shape.¹¹²

The campaigns of Revolutionary France with all its energies and resources, coupled with the dramatic Napoleonic campaigns, gave rise to a situation where in a virtual 'revolution' in military thinking would find fertile ground. The rapidity that characterized the early campaigns of Napoleon was

¹¹¹ Foucault, *Discipline and Punish*, p 169.

¹¹² Note: When we say that a 'conception of war', which, in part, owed its origins to the Cartesian construct of the Self began to take a definite shape, we do not imply that this conception of war, which was becoming increasingly understood in functional terms did not share its lineage with conceptions of war in the days of antiquity. Thus, for example, the Roman Imperial project, with its attendant Justinian Code of Laws could be viably read as being a sophisticated manifestation of a similar functional conception of war. We could take this lineage even further back by invoking the city-state system of the Greeks and the Vedic kingdoms of the Indian sub-continent.

based not only on the system of maneuver as presented by Guibert, but also on a concept that would find increasing resonance in the future – line of operations. Indeed, in 1781, Henry Humphrey Evans Lloyd had expounded on this term and its wider implications. Simply put, a ‘line of operation’ is that ‘line’ which links a fielded army to its supply camps or depots.¹¹³ This allowed for a ‘new’ twist to be given to the original concept of a ‘war of maneuver’ as propounded by Guibert. While Guibert sought to introduce the flexibility of military operations by reducing the primarily civilian baggage-train that accompanied the armies of his time into battle by recommending the use of the countryside by the army, in Lloyd’s presentation, the growing size of the European armies preempted the attempt of an army to feed itself by resorting to pillaging the countryside. He held the view, and correctly so, that modern armies needed their own supply chains and that these held the key to the operational flexibility of the army.¹¹⁴ The line that connected these supply chains to the field army, thus, was of critical importance in the context of operational planning. Lloyd’s military ideas were not incorrect save for the fact, as pointed out by Colonel (later General) Templehoff, that they were incorrectly applied in Lloyd’s discussion of the campaigns of Frederick the Great and, as was commented on by Napoleon himself, were too rigidly applied.¹¹⁵ Lloyd (and Templehoff) while being essentially correct about the central importance of the ‘line of operations’ had, however, failed to ‘read’, or at least to account for, the emerging socio-economic situation within which the battles of Revolutionary France and Napoleon had taken place. The fall of the

¹¹³ Gat, *A History of Military Thought*, p 77

¹¹⁴ *Ibid.*

¹¹⁵ *Ibid.* p 79

ancien regime also saw the rise of mass armies. These armies were different in nature from the formations of, say, Frederick the Great, in the sense that they were (at least in the initial stages) filled in by the mass conscripts who were motivated by a set of ‘new’ moral forces – forces which were imbued, in very general terms, by the ideals of the French Enlightenment and these armies lived at the expense of their enemies – both financially and in terms of logistics.¹¹⁶

The same fate befell von Bulow, who, in his *The Campaign of 1800*, claimed to be the ‘founder of military science’.¹¹⁷ Noting the new tactics that guided the Revolutionary Armies of France, von Bulow, however, chose to emphasize what he called the ‘principle of the base’ and the ‘angle of 90 degrees’. Von Bulow’s insistence on these two precepts led him to state that...

The agency of military energies, like other effects of nature, becomes weaker...in an inverse ratio of the square of the distance; that is to say, in this particular, of the length of the line of operations. Why should not this law, which governs all natural effects, be applicable to war, which now consists in little more than the impulsion and repulsion of physical mass?¹¹⁸

The appeal to Newtonian physics, in this, will not be missed. Von Bulow, thus, offered a science of strategy that was geometrical, and by pushing the logic of his argument to the limit, he also offered a science of politics, which could be mathematically calculated. Von Bulow’s theoretical efforts, however, failed in the

¹¹⁶ Ibid. p 87

¹¹⁷ Ibid, p 86

¹¹⁸ Adam von Bulow, *The Spirit of the Modern System of War*, (London, 1806), pp 198-99. Quoted in Gat, *A History of Military Thought*, p 85

same way as had the efforts of Lloyd and Tempelhoff. The evidence and experience of war, however, did not seem to match his theoretical postulates. The experience of Napoleon's Italian Campaign of 1796-97 did much to disprove von Bulow's theory of the 'angle of 90 degrees' and Napoleon's targeting of the mass of his enemy's armies as the object of operations, which involved the focusing of massive and rapid concentration of his own forces against them, forsaking any and all other considerations, also served to undermine the narrow logic of the 'line of operations'.

From August 1793 onwards, the *levee en masse* represented a radical mobilization of the French masses, though this was a project that was already underway for a while before then. It was, in part, a sub-set of the endemic violent chaos that followed the French Revolution and a handy tool for the vanguards of the Revolution to repel the threats that the counter-Revolutionary Allied advances posed to the nascent Republic. While the *levee en masse* may not have been as universal as is often claimed, it was, nevertheless, widespread and represented a massive reorganization of French society. Among other things, the *levee en masse* was the first sign of an emerging civic-militarism that would afflict society. Thus, the Act of Conscription read:

From this moment on until the enemy has been chased away from the territory of the Republic, all French are in permanent requisition for the service of the armies... Young men will go to battle, married men will forge arms and transport supplies; women will make tents, uniforms, and serve in hospitals; children will pick rags; old men will have themselves carried to public squares to inspire the

courage of the warriors, and to preach hatred of the kings and the unity of the Republic.¹¹⁹

This was a veritable call for a nation to arms and no aspect of society was exempt from the duties that the State demanded. If, in this context, we recollect the call for ‘national discipline’ issued by Guibert in conjunction with the calls made in the wake of the German *Aufklärung* movement to ‘educate the man within the soldier’, we can see how the institutionalization of war by the State proceeded. As this process took shape, a core of seasoned military professionals – Carnot, Berthier and Napoleon (among others) – began to lead this generally disorganized mass army to startling victories. The question that bedeviled observers of these frenetic but victorious operations engaged in by this newly constituted army was this – how did they do it?

Jomini’s Science and Art of War

Baron Antoine Henri de Jomini represents the last of a long line of illustrious Enlightenment military thinkers to present a theory of war based on ‘immutable’ principles and is arguably one of the most influential theorists, though often underrated, to claim the mantle of being the ‘founder of modern strategy.’¹²⁰ Jomini’s answer to those bedeviled by the rapid and victorious

¹¹⁹ John A. Lynn, *The Bayonets of the Republic: Motivation and Tactics in the Army of Revolutionary France, 1791-94*, (Boulder, CO: 1996), p 56.

¹²⁰ John Shy, “Jomini”, in *Makers of Modern Strategy*, Ed. Peter Paret, p 143.

campaigns of Napoleon and his cohorts was simple and elegant and it endeared him for the next three decades to the military professionals of the time. He said:

...strategy is the key to warfare; that all strategy is controlled by invariable scientific principles; and that these principles prescribe offensive action to mass forces against weaker enemy forces at some decisive point if strategy is to lead to victory...¹²¹

He then went on to reiterate this by saying...

The fundamental principles upon which rest all good combinations of war have always existed...these principles are unchangeable; they are independent of the nature of the arms employed, of times and places...Genius has a great deal to do with success, since it presides over the application of recognized rules, and seizes, as it were, all the subtle shades of which their application is susceptible. But in any case, the man of genius does not act contrary to these rules.¹²²

From this it will be evident that Jomini was faithfully following the trajectory set out by his illustrious predecessors. However, Jomini was singular in the fact that while he worked to reduce 'strategy' to universal principles, he also made the determination that 'tactics' were difficult, indeed impossible, to regulate.¹²³ It will be noted that while Jomini was following the original bifurcation between 'strategy' and 'tactics' effected by von Bulow, he remained more cognizant of the

¹²¹ Antoine-Henri Jomini, *Traite des grandes operations militaires, contenant l'histoire des campagnes de Frederic II, comparees a celles de l'empereur Napoleon; avec un recueil des principes generaux de l'art de la guerre*, 2nd Edition, 4 Vols., (1811) 2:312n. Quoted in John Shy, "Jomini", in *Makers of Modern Strategy*, Ed. Peter Paret, p 146.

¹²² Antoine-Henri Jomini, *Treatise on Grand Military Operations*, (New York, 1865), p 445 and pp 253-54. Quoted in Gat, *A History of Military Thought*, p 114.

¹²³ Gat, *A History of Military Thought*, p 115.

effects of ‘moral forces’ and of revolutionary technology on the battlefield.¹²⁴ Thus, Jomini tempered von Bulow’s stringent ‘scientific’ orientation by following closely the Napoleonic method of conducting war. Jomini also revised von Bulow’s formulation of the ‘line of operations’. While von Bulow, as we have seen, tied the idea of the ‘line of operations’ to ‘supply’, Jomini, however, considered them in light of ‘communications’. This, in itself, was a radical move in that it altered the view of the commander to recognizing his enemy as an active participant in battle. The reflexivity of an army thus depended not only on securing its own ‘line of operations’, but also in interdicting that of the enemy’s. This was a new twist to the ‘art of maneuver’. The object of maneuvering was not merely to exploit the positional weakness of the enemy, but to bring him to battle and, following the Napoleonic practice, to destroy the fighting capability of the enemy. While this may convey a sense of the criticality of the ‘decisive battle’, a feature that finds a powerful statement in Clausewitz’s *On War*, with Jomini, it assumed a position co-equal to that of maneuvering for Jomini maintained that maneuvering could equally dislocate an enemy to the extent so as to force a decision on him.¹²⁵

The criticality of maneuvering for Jomini was highlighted by the campaigns of Napoleon, which he followed avidly. He recognized that not only was a ‘battle’ necessary, it was also necessary to pursue a withdrawing enemy.

¹²⁴ Ibid. See also Antoine Henri Jomini, *The Art of War*, Intro. by Charles Messenger, (London, UK: Greenhill Books, 1992), pp 60-71

¹²⁵ Ibid. p 118. See also John A. Lynn, *Battle – A History of Combat and Culture from Ancient Greece to Modern America*, (Cambridge, MA: Westview Press, 2003), p 181. Lynn marks the ambivalence that Jomini displayed about the importance of ‘the decisive battle’ and of the ‘art of maneuver’.

Thus, to be able to threaten the ‘lines of operations’ of the enemy, he suggested the ‘envelopment’ which was to be directed at the extremities of the enemy.¹²⁶ This would, Jomini theorized, not only threaten the rear of the enemy, but also create possibilities that would assist in enabling the cutting off of his line of retreat. It was a stratagem that was used very often by Napoleon.¹²⁷ Jomini also considered, aside from the ‘envelopment’, the assumption of a central position – under some circumstances – to be equally important. Jomini suggested that if the movement of envelopment was not feasible due to either geographic conditions or the relative position of the enemy’s army, the attempt should be made to frontally assault the enemy’s position and to create a breach between his forces. This would, Jomini conjectured, allow an attacker a great deal of flexibility in defeating the enemy by maximizing the ‘interior lines of operations’.

One can see the heavy influence of Napoleon in much of Jomini’s formulations. Napoleon’s defeat of General Mack at Ulm in 1805 and the destruction of the Prussian army at Jena-Auerstadt in 1806 were classic examples of Jomini’s theories being put into practice. Napoleon’s swift maneuver towards his enemy’s rear and line of communications were a vindication of the Jominian ‘art’ of war. But in 1815, Napoleon took the option of frontally assaulting the opposing Allies. He was partially successful when he broke through the center of the Allied line thus separating the British and Prussian armies, and defeated the Prussian Army at Ligny. However, poor co-ordination between sections of

¹²⁶ Jomini, *The Art of War*, pp 186-208

¹²⁷ James Marshall-Cornwall, *Napoleon as Military Commander*, (London: Penguin Books, 2002), p 25

Napoleon's armies enabled the Allied armies to recover from their initial surprise and reunite, at which point, Napoleon lost the initiative and was decisively defeated at Waterloo. This was the first sign that the reduction of warfare to 'principles', as propounded by Jomini, was suspect.

Like most of the Enlightenment military theorists before him, Jomini had made tacit assumptions about a number of things.

1. First, he had assumed that war and its conduct that could be scientifically explained. This betrayed his beholden-ness to the classic notion of a *universal mathesis* around which much of the philosophy of the Enlightenment clustered. Jomini's understanding of 'war' was limited to the political regimes that he was familiar with. This led him to describe the conditions within which wars could be engaged in. Thus, he took the pains to highlight wars as being defensive, offensive, national, for recovering rights, for expediency, of intervention, of opinion, and religious.¹²⁸ Within all this, it will be noted, Jomini assumed the primacy of Reason. Indeed, it could be ventured that for Jomini, the State was the embodiment of Reason.

2. Second, it was obvious that though he did lay a great deal of emphasis on interdicting lines of communication and on the merits of envelopment, he had not ascribed any degree of 'real' autonomy to the enemy. Indeed, his

¹²⁸ Jomini, *The Art of War*, pp16-35.

entire theorization was premised on the assumption that the opposing combatants in war would operate along very similar lines.¹²⁹ This, as Shy points out, was self-evident in Jomini's ...

...preoccupation with "strategy" – a set of prescriptive techniques for military analysis and planning that has continued to dominate thinking on the subject, and he did it by...approach[ing]...the problem of war, abstracting it from its political and social context, emphasizing decision-making rules and operational result, turning war into a huge game of chess.¹³⁰

Of course, it should be noted that in this he was not alone – all his predecessors had made the similar assumption and all that followed him would continue to do so.

3. Third, Jomini was fully aware of the 'demands' of science, in whose province he saw the 'art' of war unfolding. Thus, he was careful to note when he introduced new nomenclatures that, "...in the development of a science, it is wrong for the same word to designate two very different things..."¹³¹ While the intent of Jomini is admirable, it is also indicative of

¹²⁹ It should be borne in mind that Jomini did consider the case of the effects of 'guerrilla operations' on an army of regular formations. (See John Shy's otherwise rather disparaging commentary on Jomini's 'art of war' in *Makers of Modern Strategy*, p 170). Jomini, of course, understood such operations in the context of 'civil, religious, or national war, or wars of opinion, which were armed struggles but without regular armies. Indeed, Jomini, himself had experienced two such campaigns in Spain and in Russia. To combat such a situation, Jomini had suggested that the regular army needed to 'occupy' the enemy territory – a project that Napoleon tried and failed as is evidenced by his experiences in the Spanish Peninsula. It also interesting to note the significant parallels between this Jominian suggestion and the operations being engaged in by the Allied Forces in Iraq post the overthrow of the regime of Saddam Hussein in 2003.

¹³⁰ John Shy, "Jomini", in *Makers of Modern Strategy*, Ed. Peter Paret, (Princeton, MA: Princeton Univ. Press, 1986), p 143

¹³¹ Jomini, *The Art of War*, p 180 See Footnote.

the extent to which Jomini was committed to the theorization of war as a science, and of his faithful adherence to the principles of the scientific method.

4. Fourth, while not as insistent as Guibert on a 'national discipline', Jomini, nevertheless found himself compelled to reiterate the critical importance of military institutions, thus carrying on the call for a 'rational' educational system which would serve to strengthen the military and thus, the State. He held the view that a military institution had to provide for not only a good recruiting system, but also a strict (but not humiliating) discipline, and an efficient system of organization and instruction.¹³² He underlined the importance of military institutions and of the military by stating that every government should 'make the army the object of constant care'.¹³³ But Jomini also went further and in this he anticipated Clausewitz. He held the view that...

...civilized governments ought always to be ready to carry on a war in a short time, - that they should never be found unprepared. And the wisdom of their institutions may do much in this work of preparation as foresight in their administration and the perfection of their system of military policy.¹³⁴

The last of the above-listed Jominian assumptions needs a brief explanation. The central thrust of Jomini's statement highlights the consideration of war as being

¹³²Ibid., p 43.

¹³³ Ibid.,p 45.

¹³⁴ Ibid.,p 46.

an inherently political activity, which ‘civilized governments ought to always be ready to carry on in a short time’. To be sure, Jomini explicitly states that he was “far from advising that states should always have the hand upon the sword and always be established on a warfooting...”¹³⁵ But then, he equally notes that “[I]t is particularly necessary to watch over the preservation of armies *in the interval of a long peace...*”¹³⁶ (my emphasis) Jomini then, it may be said, was working on the assumption that the condition of existence of the State was a condition of war and that ‘peace’ was always a ‘long interval’, but never the original condition of existence. What is of particular interest is the faint echo that is discernable in these words of Jomini - words that achieve a much greater visibility in Foucault’s *Society Must be Defended*, wherein Foucault explicitly overturned the classic Clausewitzian dictum of ‘war being an extension of politics by other means’. Thus, despite the often ‘bad press’ that accompanies the work of Jomini in the literature, it cannot be denied that he marked himself as being cognizant of not simply the fact that war had a politico-military dimension - he also demonstrates his acute intuition of a dimension of war that was far in excess the political.

A Preliminary Assessment

This admittedly brief overview of the emergence and evolution of military theory during the Age of Enlightenment allows us to draw some conclusions about the condition of war and the conceptions that guided the theorizations that

¹³⁵ Ibid.

¹³⁶ Ibid., p 47

accompanied it.¹³⁷ What demands our critical attention within the context of this period of history is this - How were military forces designed and deployed? How was the battlefield conceptualized? To what end were these deployments made? And ultimately, what was the understanding of war that underpinned the theoretical and practical advances made in the context of warfare during these periods?

As we have seen, from de Saxe to Jomini there was marked consistency in how and why military forces were designed and deployed. Collectively, they represent a sharp break from the thinking about war and its conduct in the Medieval Age. The most significant signature of this break was, of course, the emergence of Reason as a foundational ‘organizing principle’ which, among other things, ultimately led to the progressive fracturing of the direct links between God and Man. This ‘turn’ to reason, particularly in the context of the study and practice of war, was no doubt enabled by the increasing popular view held by some of the most distinguished military theorists of the time that the ecology within which existence is possible – where ‘existence’ understood, at the very least, as *bare life* - was marked by disorder and chaos, and thus a degree of systematization was necessary. This was deemed achievable by deploying Reason. Thus, the evolution of military theory was marked by a definite bias

¹³⁷ The brevity of this overview, given the focus of this study, has resulted in a rather skewed account of Enlightenment philosophies, particularly that of the rationalist school. Thus, for example, the contribution of Leibnitz (as an exponent of the Rationalist School) is glaringly missing from this account. Similarly, as the reader will no doubt find - particularly in the section titled ‘A Kantian Intervention’ - though there are repeated references to ‘empiricism’, this study lacks a descriptive account of the same. The author pleads guilty of such omissions which are not due to any measure of oversight – rather they are deliberate. Important as these ‘schools’ of philosophy are not only in and to the ‘field’ of philosophy but also to this study, including them would have made this study unwieldy and unmanageable.

towards increasingly 'scientific' methods which assumed Reality to be based on 'experience', which in turn was based on a particular conception of the Self. The role of Newton (and of Boyle) was significant in this emergence and wide adoption of the scientific method. True, there were variations of this method such as those proposed by Hume, among others, but the foundations of the methods of science remained unshakable. Thus, as we have seen, there was a general orientation to try to account for war and its conduct as a science and in terms of a set of universal principles that would explain not only the conduct of war, but also the condition of war.

The emergence of these military theories – backed by a growing body of creative and philosophical literature - also gave rise to, what Foucault terms, 'an expression of disciplinary power'. In a sense this was inevitable for the systematization of a field of human activity necessarily involved the systematization of the 'human'. There were, broadly, two aspects to this. The first was the organization of Man as a social body or in terms of a 'body-politic' – a population - and the second was the organization of the very constitution of Man – the body. The foundation on which this occurred was and remains a radical 'theory of power', which while may not have been explicitly stated as so, but was, in essence, just that.

It was with Descartes' expression of "I think, therefore, I am" that this theory of power found its material expression, for the object of the Cartesian

attempt was to create and invest authority and sovereignty in and to the “I” that thinks. Descartes’ methods of observation and ‘power of reasoning’ gave legitimacy to only that which fell within the ambit of thinking. Thus, in effect, what Descartes did was to define the ‘norm’ and to invest it with ‘power’ and in doing so, the “I” invested itself as Sovereign which, as Agamben points out, was defined by Schmitt as “...he who decides on the state of exception”.¹³⁸ What followed was the gradual institutionalization of this norm as a signature of power. Working from the premise that the “I” that thinks determines Reality, then the ‘right’ to exercise power over and within this Reality was deemed to reside in the “I”. In this sense, the “I” was considered to be sovereign within the construct of Reason, and as such, was identified as an embodiment of Reason itself. As Foucault shows us, this trajectory also gave rise to a ‘subject’, which the very idea of sovereignty presupposed.¹³⁹ This found its material expression in the military theories that emerged during the Enlightenment.

It will be appreciated that the primary rationale of military theory was (and remains) to ‘rationalize’ war and its conduct. Thus, we find military tactics, from de Saxe to Jomini striving to establish precise measures by which such a regulation could take place. This also meant that the ‘fodder’ of war, that is ‘Man’, also had to be regulated. This was done, as Foucault convincingly demonstrates, by devising techniques of discipline and found its manifestation in the use of ‘timetables’, ‘the distribution of ‘bodies’ in space and in the

¹³⁸ Giorgio Agamben, *Homo Sacer – Sovereign Power and Bare Life*, Trans. Daniel Heller-Rozaen, (Stanford, MA: Stanford Univ. Press, 1998), p 11.

¹³⁹ Michel Foucault, *Society Must be Defended*, p 44.

organization of these bodies, all of which collectively contributed to the composition of 'force'.¹⁴⁰ It will be noted that while at one register these were manifestations of the techniques of discipline, they were also, in the context of military theory, the general elements that enabled the devising and deployment of 'tactics'. Thus, we find that the rise of 'discipline' was intimately connected with the tactics that were devised and deployed outside and on the battlefield. In our survey of the military theorists of the Enlightenment, we found that this emergence of 'discipline' was rather implicitly assumed - as was 'the subject of war'.

Further, as we have seen, the conventional Hobbesian construct of the Leviathan is based on a reading of Hobbes' assessment of a 'natural condition' which was characterized by a condition of contradictory self-interest. Superficially, it may be said that the three examples that Hobbes gives of the condition of war are:

1. within a 'civil state', where contradictory self-interests are not resolved
2. between 'savages' who do not have the benefit of the civil state, and
3. the relations that exist between civil states.

¹⁴⁰ Foucault, *Discipline and Punish*, pp 135-169.

This, according to the conventional reading, is the signature of the warlike state of existence in which Man existed and which provided Hobbes with the rationale for proposing the construction of the Leviathan. The common-place view of the Hobbesian construct of the Leviathan, therefore, is one that removes the basis for war by pointing to the existence of the Leviathan. This, however, as Foucault points out, would only be a partial view of the dynamic that empowered the Hobbesian theory. On his part, Foucault alerts us to the possibility that Hobbes may be considered as the theorist “who said that war is both the basis of power relations *and* the principle that explains them.”¹⁴¹ (my emphasis)

Foucault shows us how the Hobbesian theory of power can be re-problematized. It could be said that what the Hobbesian ‘state of war’ actually presupposes is limited to a contest between ‘equals’ for a contest between ‘unequals’ would always come to an end to the benefit of the stronger side, which in turn would bring about, theoretically, a cessation of the condition of war. Now, Foucault asserts that the signature of this condition is an interplay of representations, which is also indicative of a kind of diplomacy that maintains or seeks to maintain a near equal parity between two opposing forces. In this way, Foucault alerts us to the fact that what Hobbes was referring to was a state in which we are not *at* but *in* war. From this, Foucault concludes that “Hobbes...does not begin with war at all.”¹⁴²

¹⁴¹ Foucault, *Society Must be Defended*, p 89.

¹⁴² *Ibid.*, pp 89-93.

From these grounds Foucault shows us how the notion of sovereignty and the State emerged. In sum, Foucault contends that the notion of sovereignty (and of the State) formulated by Hobbes was based not only in terms of ‘institution’, but also in terms of ‘acquisition’. Briefly, Foucault shows how the institution of the ‘sovereign’ was based not so much on the ‘transfer’ of rights or power, but on the *decision* to enable the representation of rights and power. Given this, there is no actual ‘loss’ of rights and power to those who decide to have their rights and power represented by the ‘sovereign’ – be it an individual or a collective body. Why? Simply because the ‘sovereign’ is a co-equal with those it represents, albeit as a ‘first among equals’. This co-relation between the Sovereign and the Individual allows for the former to also acquire, like the latter, an ‘individuality’ – both real (like those whose rights and powers it represents) and artificial (by virtue of the fact that it is artificially constructed by those whose rights and power that it represents).¹⁴³ On the other hand, Foucault described sovereignty by acquisition in terms of the ‘will to prefer life over death’, which, according to Foucault, “introduces us into...a juridical regime...and it is as juridical and legitimate as the sovereignty that was established through the model of institution...”¹⁴⁴ Pursuant to this, Foucault shows us the instance where, according to him, Hobbes makes an appeal to a more primal ‘will to live’ with the example of the ‘child and its mother’.¹⁴⁵ In Foucault’s assessment, therefore, “[F]or sovereignty to exist, there must be – and this is all *there must be* – a certain *radical will that makes us want to live*, even if we cannot do so unless the other is

¹⁴³ Ibid., pp 93-94.

¹⁴⁴ Ibid., p 95.

¹⁴⁵ Ibid., p 96

willing to let us live.” Thus, Foucault noted, “we ... find the same series: will, fear, and sovereignty”¹⁴⁶ (my emphasis) – Hobbes’ ‘state of nature’.

The question that must be posed here is this – is there a subjectivity from which the ‘will to live’ emerges? Indeed, what is ‘that’ which wants to ‘live’? It will be noted that regardless of the radical interpretation provided by Foucault, the basic premise of the Hobbesian construct, as per a Foucauldian reading, was a ‘life’ that had to have the ability to display a coherent ‘will to live’. Further, ‘living’ had to be construed in a particular way which, this study contends, was and remains intimately tied to the notion of ‘death as a limit-condition’. Now, there are a number of ways by which an expression of the ‘will to live’ may be understood. At the most basic level, it may be referred to as a ‘species’, which displays a biological instinct in the form of the ‘will to live’. Yet, we find that ‘to live’ suggests a particular kind of ‘a life’. For an entity to ‘will’ living, it must know not only what ‘a life’ means, it would also have to know what ‘living’ means and what the ‘other’ of ‘to be alive’ means. This, in the first instance, presupposes the presence of thought. Thus, at the very least, there is an implicit assumption of a ‘thinking entity’ in this Foucauldian reading of ‘the will to live’. In the Cartesian context, this would be the ‘subject’ for the ‘will to live’ points to the presence of an I-ness which desires to live. It will be noted that the notion of this I-ness is determined (which is the subject, in the context of Cartesian notion of the Self) *after* the undetermined “I” in Descartes’ construct has been determined by thinking. In Descartes’ formulation, therefore, ‘thinking’ was the

¹⁴⁶ Ibid.

signature of 'life', indeed of existence and the absence of which was 'death'. Thus, it will not be wrong to state that it was this 'subject' that was assumed to be subjected to the disciplinary modes of thinking which also underwrote much of the juridico-political and military theories of the Enlightenment. The assumption was always made that the subject of war was a subject who could be assumed to, at the very least, display the 'will to live'. In other words, the 'will to live' was the most common rational factor that was shared by all men. From this to construct the edifice of the juridico-political system, which would not only explain but also shape and control the actions of Man, was an easy matter.

With reference to the above discussion it is also necessary to briefly dwell on the phrase - 'to live'. What this phrase means, at this point, is not central to the discussion, though we have very briefly alluded to its implications above. What is of more importance, in the context of this study, is to recognize the presumption of a common meaning that this phrase held across the board. Given this, it is therefore not surprising that this presumption enabled the formation of a set of doctrines and institutions which reinforced the notion of a *universal mathesis* which also served as the foundation on which the conception of war unfolded. It will be appreciated that such an *universal mathesis* also allowed for the creation of an enemy who was not an Absolute Other, but an 'Other' relative to the Self and in this way the conception of war was kept within manageable limits of an interaction between two equal adversaries. In this sense, as we have seen above, the two adversaries in combat were not radically different. The 'strategy' of the

Cartesian construct was to assert the Self's sovereignty by 'thinking' the 'norm'. Thus, that which lay outside the norm was not labeled unreal, but ab-normal. Ab-normality, for the Self, was a condition that was included within the conditions of possibility of the Self for it necessitated the recognition of the condition of abnormality. The enemy thus had to fall within this construct of ab-normality and not outside it.¹⁴⁷ Agamben perceptively points to this when he marks that the traditional duality of Western politics was not a case of the friend/ enemy binary but one of bare life/ political existence, *bios/ zoe* and exclusion/ inclusion.¹⁴⁸ Thus, the Self *made* the Other and this was expressed in a variety of ways - for example, Vattel's injunction that the 'object of war was to bring an enemy to reason'. Indeed, here is where Foucault's analysis of Hobbes is most interesting for, as we have seen, Foucault showed how the Hobbesian notion of war presupposed an 'equal opposite'. A problem, however, arises if the notion of the equality is removed from the contestants and we posit an Absolute Other (as contrasted with an excluded Other) in place of the traditional adversary of the Self. But this is a problem that did not afflict the military theorists of the Enlightenment. They did not consider the need to think in terms of an Absolute Other given their firm position within the *universal mathesis* that emanated from the Cartesian construct of the Self.

¹⁴⁷ Michel Foucault, *Abnormal*, Trans. Graham Burchell, Intro. Arnold I. Davidson, Foreword, Ewald et al, (New York, NY: Picador, 2003), pp. xvii - xxv

¹⁴⁸ Agamben, *Homo Sacer*, p 8. Note that 'exclusion' does not simply imply 'being excluded' by someone or something. Exclusion also suggests 'not being a part of' in originary terms.

Thus, we find that there are at least five elements that consistently emerge from our overview of the military theories of the Enlightenment, which have remained at the core of the dominant strains of martial thinking. The first is that a conception of war was a function of a more fundamental conception of the Self, which owed its origin to the Cartesian construct. It was this which enabled the formulation of military theory in terms of a science and was deemed firmly grounded on Reason and thus, 'universal'. The second is the understanding of the 'enemy', where, the enemy was not an Absolute Other of the Self, but was an Other made its own by the Self. In this sense, the Enemy was an entity that was easily recognizable by the Self as it employed the same strategies and tactics as the Self did.¹⁴⁹ The third is the emergence of a plethora of institutions – both military and juridico-political – which served to reinforce not only this conception of war but also the conception of the Self. Indeed this conception of the Self enabled, rather than hampered, the 'control' that was exercised over bodies – the evidence of which, we have noted, resided not only in the institutions but also in the very tactics and strategies that were employed in the context of war. Fourth, this condition also led to the developing of specific 'disciplines' of knowledge, which served to organize Reality and which also contributed to the *universal mathesis* of the Enlightenment. And lastly, there was an implicit and dim recognition, and much understated, that there was an area of the Self which was radically undecidable/ unknowable. This, in the context of the evolution of military thought, was more often than not attributed to the realm of the Genius.

¹⁴⁹ Carl Schmitt, *The Concept of the Political*, Trans. & Intro. G. Schwab (New Intro by Tracy B. Strong), (Chicago: Univ. of Chicago Press, 1996)

Interlude

Prelude to Clausewitz or,

*...Waiting for the revolution...*¹⁵⁰

As our cursory survey of the Enlightenment shows, the sudden burst of creativity that heralded the advent of the Age of Enlightenment driven - in no small part - by the dramatic advances in the field of the natural sciences stimulated the intellectuals of the time to establish the domain of Reason by attempting to create orderly sciences and disciplines in most, if not all, spheres of human activity. In the context of the emergence and evolution of military theory we find that

...[T]he striking impressions in reading the works of the military thinkers of the Enlightenment is the all-embracing uniformity of their theoretical outlook...they did not differ in the fundamentals of their guiding objective – the search for a general theory of war...there were, of course, varying interpretations and emphasis, but the central themes were both clear and indisputable. War, like all fields of nature and human activity, was susceptible to a comprehensive and systematic theoretical study. In part, it could be reduced to rules and principles of universal validity and possibly even mathematical certainty...¹⁵¹

This ‘tendency’ itself was based on a more fundamental belief in the ultimate rationality of Man and of the pivotal role of Reason to explain the actions of

¹⁵⁰ Black Sabbath, “Computer God” in Dehumanizer, 1992

¹⁵¹ Gat, *A History of Military Thought*, p 142

Man.¹⁵² But in 1789, “a series of interrelated processes mark(ed) a major point of transition in European, and possibly world history – The French Revolution.”¹⁵³ While the Revolution may be understood as being the pinnacle of the Enlightenment Age, its occurrence also sounded the death-knell of that Age. The advent of Napoleon, while a product of the Enlightenment himself, was the signature of the gradual but perceptible decline of the ethos of the Enlightenment.

The impact of this was not only felt within the borders of France, but also across geographical, linguistic and political boundaries. There was a rising reaction to the core ideals of the Enlightenment which, as a movement, began to focus increasingly on the complexity and variety of human nature and its multiple realities. Critiquing the basic tenets of the Enlightenment, this intellectual movement stressed on the irreducibility of human emotions and creativity to formulaic expressions. This was the Counter-Enlightenment or Romantic Movement. In the context of warfare, this movement also breached the hegemonic domination of the leading military theorists of the Enlightenment Age.¹⁵⁴ It is significant to note that the advent of the Romantic Age also thrust onto the center-stage, the role and locus of the idea of the genius as the Commander. It is in this

¹⁵² Peter Gay makes the important point that referring to the Age of Enlightenment as the Age of Reason is fraught with danger. He suggests that if by ‘reason’ one implies criticism and a position counter to ‘credulity’ or ‘superstition’ then the use of the word is justified. The conventional habit of understanding ‘reason’ (and ‘rationality’) in the context of the Enlightenment as being a signature of being contemptuous of emotion and inhabiting an empty universe stripped of all colour and love would be an error. See Gay, *The Enlightenment – The Science of Freedom*, p 625. A countervailing argument, as we have already seen, is provided by Schoules in his *Descartes and the Enlightenment*

¹⁵³ Ludmilla Jordanova, “The Authoritarian Response”, in Peter Hulme and Ludmilla Jordonova Ed., *The Enlightenment and its Shadows*, (London, UK: Routledge, 1990), p202.

¹⁵⁴ Gat, *A History of Military Thought*, p 269.

context that Clausewitz's magnum opus, *On War*, presents itself as a key text – one that has since served as a model of *how to think about war*.

The reaction to the Enlightenment, among other things, took the form of a rejection of the Cartesian rationalism (and of dogmatic rationalism in particular) and the multi-varied strains that characterized it. The Romantic thinkers decried the general tendency of the Enlightenment to reduce what they considered to be a highly complex world to a set of “simple, fundamental, universal”¹⁵⁵ ‘principles’. For the Romantic thinkers, the world was anything but simple and was not reducible to principles. Instead, the world - to them - was highly complex and constituted by innumerable and singular elements, events and variables. Most importantly, for the Romantic thinkers, the world was deemed to be always in a state of change and transformation, which precluded its reduction to a core set of laws. Thus, as Gat points out, Hamann, who is considered to be the...

...spiritual mentor of the men of the ‘Storm and Stress’ (*Sturm und Drang*) period, scorned the Enlightenment's blindness to, and loss of touch with, rich and vital reality on which it arrogantly attempted to force artificial, crude, and superficial principles and frameworks. Genuine knowledge (it was deemed) was always the knowledge of singular and unique cases.¹⁵⁶

While Hamann may be considered as being an ‘early’ Romantic thinker, we would not be too far off the mark to suggest that the general tenor of the Romantic thinkers who were to follow him was to repeatedly, and in increasingly

¹⁵⁵ Ibid., p 144

¹⁵⁶ Ibid.

sophisticated styles and methods, question universal principles and to celebrate the 'particular' - a feature that found explicit mention in, among others, Fichte's, Schelling's and Hegel's philosophies.¹⁵⁷

Thus, the movement against the Enlightenment – following Gat's exegesis – may be clustered around four principle thematics. (1) A reaction against the mechanistic and rationalist doctrines which drew their inspiration from Descartes, and Newton. (2) A rejection of the claim that man was a *tabula rasa*. (3) An emphasis on the individual as a creative and imaginative entity and (4) the adoption of a historical perspective that resisted the measuring of societies and historical periods through universal perspectives and values.¹⁵⁸ Superficially, this would suggest that the Romantic philosophers (and, one might add, the military thinkers influenced by the essentials of Romantic philosophy) insisted on breaking up the vice-like hold of the notion of *universal mathesis*. But was this really the case? Our next step, therefore, will be to investigate this question by looking closely at the philosophical kernel around which Clausewitz formulated his, admittedly incomplete, 'theory of war'.

¹⁵⁷ See, for example, Di Giovanni, George and H. S. Harris, eds. *Between Kant and Hegel: Texts in the Development of Post-Kantian Idealism*, Revised Edition, (Indianapolis, Indiana: Hackett Publishing Company, Inc., 2000); Stephen Houlgate, *An Introduction to Hegel: Freedom, Truth and History*, 2nd Edition (Oxford: Blackwells, 2005)

¹⁵⁸ Gat, *A History of Military Thought*, p 144-149

SECTION II

A Kantian Intervention

It will be recollected that in the sphere of dogmatic rationalism, the theory of knowledge was based on the notion of ‘correspondence’ – between the subject and the object – which empowered the Cartesian Self (and concomitantly, the Enemy) in the first instance. Thus, the aim of dogmatic rationalism, which takes Descartes’ philosophical system as its point of origin, was to reach an accord between the ‘order of ideas’ and the ‘order of things’. In contrast to this, Kant’s metaphysical project was

...to sketch the architectonic of all cognition issuing from *pure reason*...[and his starting point was]...from...the general root of...cognitive power [which] divides and thrusts forth two stems, one of which is *reason*...(by which Kant meant)...the whole higher cognitive power...¹⁵⁹ (emphasis in original).

Thus, Deleuze, while noting that “Kant defines philosophy as ‘the science of the relation of all knowledge to the essential ends of human reason’, or as ‘the love which the reasonable being has for the supreme ends of human reason’”,¹⁶⁰ he also observes that “...we can already identify a struggle on two fronts: against empiricism and against dogmatic rationalism.”¹⁶¹

¹⁵⁹ Immanuel Kant, *Critique of Pure Reason*, Trans. Werner S. Pluhar, Intro. Patricia W. Kitcher, (Indianapolis: Hackett Publishing Co., 1996), p 757-758

¹⁶⁰ Gilles Deleuze, *Kant’s Critical Philosophy*, Trans. Hugh Tomlinson & Barbara Habberjam, (Minneapolis: Univ. of Minnesota Press, 2003), p 1

¹⁶¹ *Ibid.*

The Kantian intervention in this battle between the two fronts was spearheaded by the ‘doctrine of faculties’, which as Deleuze points out, is the “real network which constitutes the transcendental method.”¹⁶² It should be noted, when read with Deleuze, the Kantian transcendental method is underwritten by an immanent principle – one in which “reason...takes itself as its own end.”¹⁶³ This ‘method’, essentially, undercut both rationalism and empiricism by grounding reason in itself – as a faculty of ends - unlike the latter two systems which, in the case of empiricism relies on personal experience and, in the case of rationalism, on a higher end – ‘a Being, a Good, or a Value, taken as a rule of will.’¹⁶⁴ Further, we should recognize that this method, though bringing about a ‘Copernican Revolution’ in the field of philosophy, remained partial to what Horkheimer refers to as “the faculty of classification, inference, and deduction...[which is]...essentially concerned with means and ends, with the adequacy of procedures for purposes more or less taken for granted...”¹⁶⁵ In sum, therefore, Kant’s transcendental method set out to determine (1) the true nature of reason in terms of its interests and ends and (2) the means by which these interests and ends may be achieved.¹⁶⁶ Thus, for Kant, “...all the concepts, nay, all the questions which pure reason presents to us, have their source not in experience, but exclusively in reason itself...since reason is the sole begetter of these ideas, it is under obligation to give an account of their validity or of their illusory dialectical nature...”¹⁶⁷ This

¹⁶² Ibid, p 10

¹⁶³ Ibid., p 2

¹⁶⁴ Ibid, pp 1-3

¹⁶⁵ Max Horkheimer, *Eclipse of Reason*, (London: Continuum, 2004), p 1

¹⁶⁶ Ibid, p3

¹⁶⁷ Ibid.

may be considered as being one of the central tenets of Kant's contributions to the development of critical philosophy. While Kant's full contribution to the 'revolution' in philosophy warrants a much more engaged and detailed exegesis than this study can offer, in the present context, we shall limit our descriptive overview to two specific elements of his critical philosophy that are of especial interest to us.

Taken as whole, as Wilkerson informs us, Kant's philosophical endeavors were geared towards a two-fold objective:

First, Kant wants to expose the vacuous metaphysics of traditional rationalism. To do that he must first develop his own positive account of knowledge, must establish for example that we can only make knowledge claims about spatio-temporal substances which obey causal laws...[thus]...he must discuss specific problems about space, time, substance and causality...Second...he thinks that we can and should leave room for some a priori knowledge of the world...[thus]...according to Kant we can and do know a priori that objects are spatial, temporal, causal etc.¹⁶⁸

Pursuant to this Kant asked, "What is the fact of knowledge?"¹⁶⁹ By posing this question, Kant thus confronted a fundamental metaphysical question – a question that leads directly, as Deleuze suggests, to the 'object of metaphysics'.¹⁷⁰ Kant's answer to this question, of course, was that 'the fact of knowledge is that we have

¹⁶⁸ T. E. Wilkerson, *Kant's Critique of Pure Reason – A Commentary for Students*, (Bristol: Thoemmes Press, 1998), p 7

¹⁶⁹ Gilles Deleuze, *Kant's Critical Philosophy*, p 11

¹⁷⁰ Ibid.

a priori representations, which enable us to engage in judgment.¹⁷¹ It is this Kantian notion of the *a priori* that is of critical interest to us.

While reading Kant, Deleuze suggests that “[N]ecessity and universality are the criteria of the *a priori*. The *a priori* is defined as being independent of experience, precisely because experience never ‘gives’ us anything which is universal and necessary.”¹⁷² The independence that Deleuze refers to here, it is critical to note, is a strategic one in the sense that it is not limited by objective facts, which are yielded to us by experience, and in this sense, the realm of the *a priori* is necessarily subjective. But, as Deleuze is quick to point out, “the given cannot be the basis of the operation by which we go beyond the given.”¹⁷³ Thus, it is evident that the *a priori* would not only have to be confirmed by our experience, but would also have to respond to it. This, in essence, was the Kantian notion of knowledge as distinguished from mere representation for, in Deleuze’s words, “[A] representation on its own is not enough to form knowledge. In order to know something, we need not only to have a representation, but to be able to go beyond it: ‘in order to recognize another representation as being linked to it.’”¹⁷⁴ As we will see, hidden within the maze of relations bind this Kantian notion of knowledge and representation is the case concerning the ‘real’ and the ‘absolute’, which is so critical to the entire Clausewitzian project.

¹⁷¹ Ibid.

¹⁷² Ibid, p 11, See also p 5.

¹⁷³ Ibid, p 12

¹⁷⁴ Ibid, p 4

Further, the notion of *a priori* knowledge is equally applicable to what Kant referred to as the ‘categories’, which are “the a priori conditions upon which the possibility of experience rests, and which remain as its underlying grounds when everything empirical is abstracted from appearances.”¹⁷⁵ Kant’s reliance on the *a priori* – both in terms of knowledge and judgment – finds further expression in his ‘proofs’ for the existence of *a priori* principles. Thus, for example, Kant’s first proof is crafted in terms of showing “that pure a priori principles are indispensable for the possibility of experience...for whence could experience derive its certainty, if all the rules, according to which it proceeds, were always themselves empirical, and therefore contingent?”¹⁷⁶ Another example would be Kant’s notion of abstraction. As Caygill highlights, “[T]he proof of an a priori form of intuition abstracts from an empirical body all its qualities until it arrives at space as its ineluctable residuum or a priori form of intuition.”¹⁷⁷

We should also not fail to appreciate, though the issue remains outside the declared scope of this study, that Kant’s notion of the *a priori* has given rise to, in Caygill’s words...

...an enormous debate which shows no sign of abating. At stake is an account of justified knowledge which is neither empiricist nor idealist...[and]...One of the main reasons for the longevity of the debate is the ambiguous and often cryptic

¹⁷⁵ Howard Caygill, *A Kant Dictionary*, (Oxford: Blackwell Pub., 2006), p 36

¹⁷⁶ *Ibid.* p 36-37

¹⁷⁷ *Ibid.*, p 37

account of the source of a priori universality which Kant offers in his published writings.¹⁷⁸

Interestingly, Caygill suggests that a perusal of Kant's unpublished notes suggests that "the theoretical problem of the a priori is unequivocally linked to spontaneity and freedom, and through them to practical philosophy."¹⁷⁹ This last observation will also be of material help to us when we, in short order, proceed to investigate and appreciate the contribution of Clausewitz to the study of war.

For the moment, however, it is important to reiterate the criticality of the *a priori* in the Kantian architectonic by pointing to the revised definition of the term as effected by Kant. Thus, as Caygill points out, Kant "develops new criteria for *a priori* knowledge: it is (a) pure and (b) universal and necessary...The argument for the purity of a priori knowledge, judgments and elements holds that they are 'clear and certain' modes of knowledge independent of experience."¹⁸⁰ But, Kant did not simply rest after providing a redefinition of the term. He also provided a 'proof' by...

...abstracting from experience 'everything which the understanding thinks through its concepts' thus 'isolating' sensibility and then 'separating' off 'everything which belongs to sensation, so that nothing may remain save pure intuition and the mere form of appearances, which is all that sensibility can supply a priori.'¹⁸¹

¹⁷⁸ Ibid.

¹⁷⁹ Ibid.

¹⁸⁰ Ibid., pp 35- 36

¹⁸¹ Ibid. See also, Kant, *Critique of Pure Reason*, p74 (A22/ B36)

The criticality of the notion of *a priori* knowledge in the Kantian scheme of things is further reiterated by Kant's assertion that 'not only is *a priori* knowledge independent of experience, but *a priori* knowledge is the very condition of experience.'¹⁸²

The second point of interest for our present purposes is a term that we have used earlier – 'architectonic'. In the context of the Kantian *oeuvre*, 'architectonic' assumes a special place, which he explored in his path-breaking *Critique of Pure Reason*, specifically in the chapter titled 'Transcendental Doctrine of Method'. Therein Kant gives us his definition of the word. For Kant, 'architectonic' is "...the art of systems. Since systematic unity is what first turns common cognition into science...architectonic is the doctrine of what is scientific in our cognition as such..."¹⁸³ As Caygill explains, "[T]he system is characterized by an organized unity which is the end to which the parts of the science relate, and in which they relate to each other. *The architectonic end is distinguished from a 'technical' one by not being derived from empirical criteria arising from scientific discoveries; rather it anticipates them.*"¹⁸⁴ (my emphasis). It is interesting, and also important, to note that Kant is insistent on outlining the architectonic of human reason in dual terms: (1) nature and (2) reason, thereby underlining, in Caygill's words, "the division between the philosophy of nature, which deals with all that is, [and] the philosophy of morals with that which ought

¹⁸² Caygill, *A Kant Dictionary*, p 36

¹⁸³ Kant, *Critique of Pure Reason*, p 755, A832/ B860

¹⁸⁴ Caygill, *A Kant Dictionary*, p 84

to be.”¹⁸⁵ In this context, we should note that for Kant ‘human reason’ was architectonic by nature – the implication being that all (justifiable) knowledge belonged to a system. The criticality of the architectonic for Kant is reflected in the fact that he distinguished, rather sharply, between two notions of philosophy - the first being ‘technical’ – in the sense as mentioned earlier – as ‘a reflection on the products of human reason’; the second - the one which Kant perceived himself to be engaging in – “as the legislator of human reason.”¹⁸⁶

This sketch of the *a priori* and the architectonic within the Kantian intellectual project - despite its brevity and limited scope – reveals to us a number of points of interest. First, Kant’s positing of the *a priori* – both in terms of knowledge and judgment – appears to us as an attempt to ‘make’ space for that which is beyond experience, that is to say, that which is independent of experience. Second, the *a priori*, as a consequence, allowed for the positing of the universal and the necessary. Third, as Deleuze demonstrates, Kant – betraying a distinctly Aristotelian influence – was able to develop the ‘categories’ which are essentially universal attributes or predicates.¹⁸⁷ Kant’s framing of the architectonic – which includes each of the above elements – thus, is also significant in the sense that it represents a holistic ‘system underwritten by ‘reason’. These collectively allowed Kant to re-assert ‘reason as the highest

¹⁸⁵ Caygill, *A Kant Dictionary*, p 84. See also Kant, *Critique of Pure Reason*, p 755, A840/ B868.

¹⁸⁶ Kant, *Critique of Pure Reason*, A839/ B867, p 760. Caygill chooses to translate ‘legislator’ as ‘law giver’. See Caygill, *A Kant Dictionary*, p 84

¹⁸⁷ Gilles Deleuze, *Les Cours Deleuze – Kant: Synthesis and Time*, March 14, 1978, Traducteur: Melissa McMahon. Available at www.webdeleuze.com. Last accessed on Jan 05, 2007

tribunal' – a basis from which he was later able to expound his 'moral philosophy'.¹⁸⁸

The Romance of Clausewitz

The influence of Kant on Clausewitz is a much debated and disputed aspect of the history of the evolution of military thought.¹⁸⁹ Some have contended that while Kant may have, to some degree, influenced Clausewitz, the evidence is not as clear as, for example, the influence of Montesquieu or even that of Fichte and Hegel.¹⁹⁰ Others have discounted, indeed dismissed, the necessity of spending much time on tracing the philosophical influences on Clausewitz's thinking. These latter commentators have suggested that it is not surprising that Clausewitz's *magnum opus* betrays the prevalent philosophical tendencies of his times since Clausewitz, after all, was not only 'bookish and introverted', but also well networked with the leading intellectuals of the time.¹⁹¹ What is important to them, however, is the elegance of the Clausewitzian system which, while quite specific in detailing the rationale of individual military operations and situations,

¹⁸⁸ See Immanuel Kant, *The Metaphysics of Morals*, Trans. Rodger J. Sullivan, Ed. Mary Gregor, (Cambridge: Cambridge Univ. Press, 2000)

¹⁸⁹ Gat, *History of Military Thought*, pp 195-197. It should be noted that Clausewitz explicitly acknowledges his debt to Montesquieu, though his intellectual debt to Kant remains obscure and unacknowledged. See Clausewitz, *On War*, 'Comment', p 63.

¹⁹⁰ See, for example, Bernard Brodie, "On Clausewitz: A Passion for War," in *World Politics* 25, no. 2 (January 1973): 290 for the arguments in favor of a Hegelian Clausewitz. Parkinson provides the arguments in favor of a Kantian Clausewitz. See Roger Parkinson, *Clausewitz: A Biography*, (New York, Cooper Square Press: 1st. Edition, December, 2002)

¹⁹¹ See, for example, John Lynn, *Battle: A History of Combat and Culture from Ancient Greece to Modern America*, p203. See also Michael Howard, *Clausewitz* (New York: Oxford University Press, 1983), pp 13-

nevertheless also managed to convey its universal-like nature.¹⁹² And then there are those who, while certainly not dismissing Clausewitz, reject the principle determinants of the Clausewitzian universe – but only on the grounds of being obsolete. They, more often than not, call for a ‘reevaluation of all values’.¹⁹³

Given that the life of Clausewitz has been documented in great detail, it is not necessary to review the same here.¹⁹⁴ Nor will a general exegesis of Clausewitzian theory, which has been equally well documented, occupy our attention.¹⁹⁵ Instead, we will engage with what are, in the context of this study, critical issues within Clausewitz’s theory of war - thematically arranged as (1) method (2) theory and (3) strategy. Within this scheme, we will not only contextualize Clausewitz’s insistence on the subordination of war to politics - made famous by the now well-worn dictum: ‘war is an extension of politics by other means’ - we will also pay close attention to how Clausewitz addresses the phenomena of chance and uncertainty, and how and in what light he views the ‘commander’ and his role.

¹⁹² See, for example, Christopher Bassford, “John Keegan and the Grand Tradition of Trashing Clausewitz: A Polemic”, *War and History*, v.1, no.3 (November 1994)

¹⁹³ An interesting feature of the scholarship surrounding Clausewitz is the availability of studies and analyses in two broad categories - (a) those that highlight the philosophical indebtedness of Clausewitz’s thinking – early and mature – to various philosophical schools and impulses and/ or (b) those that debate the applicability and relevance - or otherwise - of Clausewitz’s theoretical efforts to current and emerging global conditions. See Gat, *A History of Military Thought*, pp 219-237. For an account that calls for a change in the way we think of war – a reevaluation of all values – see Robert R. Leonard, *Principles of War for the Information Age*, (New York: Ballantine Books, 1998)

¹⁹⁴ See, for example, Amos Perimutter, “Carl von Clausewitz: Enlightenment Philosopher: A Comparative Analysis,” *The Journal of Strategic Studies* 11, no. 1 (March 1988); 7-19; Howard, *Clausewitz and Gray, Modern Strategy*.

¹⁹⁵ See, for example, Bernard Brodie, “The Continuing Relevance of On War,” in Clausewitz, *On War*, Ed. & Trans. Michael Howard and Peter Paret (Princeton, N.J.; Princeton University Press, 1984); James King, “On Clausewitz: Master Theorist of War,” *Naval War College Review* 30 (Fall 1977):9; Bernard Brodie, “In Quest of the Unknown Clausewitz,” *International Security* 1, no. 3 (Winter 1977); 66

Taken collectively, these will equip us to (1) outline a Clausewitzian ‘architectonic’ of war, and (2) to engage with the philosophical core around which the architectonic of war – as a strategic ensemble - sustains itself. In the wider context of this study, the latter objective will have far-reaching consequences for it will allow us to suggest - here recalling Szafranski – that (a) Clausewitz’s efforts should be understood as not simply a response, but also a ‘mode of response’, to the emerging ‘epistemological challenges’ of his time and (b) that what may have begun as an epistemological exercise has now assumed an ontological character – somewhat aided and abetted by Clausewitz himself.

i. *Clausewitz, Methodologizing...*

Let us begin by recognizing that “Clausewitz’s reformulation of the concept of military theory, which was directed against the theoretical outlook of the Enlightenment, was bound up with his effort to devise an adequate military theory of his own.”¹⁹⁶ This conceptual reformulation took a dual form. In the first instance Clausewitz, dissatisfied with the efforts of his predecessors, took to critiquing their theories and ‘systems’ of war. Secondly, as Clausewitz’s thought matured, we find him engaged in not simply a critique of the earlier systems but in a more positively oriented problematization of war itself. Paret suggests that this second mode, for Clausewitz, was more programmatic.¹⁹⁷

¹⁹⁶ Gat, *A History of Military Thought*, p 192.

¹⁹⁷ Peter Paret, *Clausewitz and the State*, (Oxford: Oxford Univ. Press, 1976), p 156.

Now, in his essay, 'On the State of the Theory of War', Clausewitz wrote - "...we expect great advantage from an intelligent development of theory, partly for the training of young students, and even more for the development of the art itself."¹⁹⁸ After clarifying that 'method', is "...a constantly recurring procedure that has been selected from a number of possibilities...[which] becomes routine when action is prescribed...rather than by general principles,"¹⁹⁹ Clausewitz insisted that...

[I]t must necessarily be assumed that all cases to which such a routine is applied will be essentially alike. Since this will not be entirely so, it is important that it be true at least *as many as possible*. In other words, methodical procedure should be designed to meet the most probable cases...based on the average probability of analogous cases. Its aim is to postulate an average truth, which, when applied evenly and constantly, will soon acquire something of the nature of a mechanical skill, which does the right thing almost automatically.²⁰⁰ (emphasis in original)

Further, in 1808, in a note titled, 'On Abstract Principles of Strategy', Clausewitz sketched out, albeit tentatively, a structure that would eventually integrate the rich diversity of historical experience, and a methodology that would allow for a universal approach to the study and distillation of the same.²⁰¹ As his letter to Fichte written in January 1809 shows, Clausewitz harbored the idea that underlying the diversity of historical experience, there did exist a universal constant element – an element that was the object of 'theory' – 'the lasting spirit

¹⁹⁸ Quoted in Gat, *A History of Military Thought*, p 192.

¹⁹⁹ Ibid.

²⁰⁰ Ibid

²⁰¹ Gat, *A History of Military Thought*, p 193.

of war'.²⁰² What is interesting is that, for Clausewitz, this attention to the presence of a 'universal constant element', which in the case of war was 'the lasting spirit', was not limited only to the martial context. Thus, for example, in a note written in 1807 by Clausewitz to his fiancée, Marie, he observed that...

Religious feeling in its elemental purity will eternally exist in men's hearts, but no positive religion can last forever. Virtue will eternally exert its beneficial influence on society; but the universality of this global spirit cannot be expressed in the restrictive form of a code of laws, and form itself will shatter sooner or later when the stream of time has washed away or reshaped the surrounding contours.²⁰³

The intellectual reference made in this note can be traced if not directly to Kant, then at least to Schleiermacher, who was an avid Kantian.²⁰⁴ It is also indicative of Clausewitz's familiarity with at least the general tenets of Kant's philosophy and its methodological practices. It is, therefore, not surprising that Clausewitz

²⁰² Gat, *A History of Military Thought*, p 193

²⁰³ Quoted in Peter Paret, *Clausewitz and the State*, p 167. Letter to Marie, Oct 5, 1807.

²⁰⁴ Thus, for example, in the Preface to *The Critique of Pure Reason*, Kant wrote: "Human reason has a peculiar fate in one kind of its cognitions: it is troubled by questions that it cannot dismiss, because they are posed to it by the nature of reason itself, but that it cannot answer, because they surpass human reason's every ability." (Kant, *Critique of Pure Reason*, (A vii), p 5. Schleiermacher, as Robbins, for example, shows us, "knew the difficulties of thinking religion. Like Kant, he knew that to locate the religious within the sphere of consciousness is already to reduce religion to an idol. But unlike Kant, Schleiermacher realizes that just as thinking has the danger of eclipsing the religious, so too does acting. Thus, for Schleiermacher, Kant's categorical imperative merely reinscribes the problem. Schleiermacher mediates his way between these extremes of consciousness (knowing and doing) by positing "a necessary and an indispensable third"...". Schleiermacher thus attempted to take the Kantian project further focusing particularly on the problem posed by religion to reason. See Jeffrey W. Robbins, "From Thinking to Religion: The Opening of Ideality in 19th Century Protestant Thought," *Journal for Christian Theological Research*, 5:5 (2000). For an account of Schleiermacher's work, see Friedrich Schleiermacher, *On Religion: Speeches to its Cultured Despisers*, Trans. John Oman, (New York: Harper and Row, 1958). For Kant's account of religion, see Immanuel Kant, *Religion Within the Limits of Reason Alone*, Trans. Theodore M. Greene & Hoyt H. Hudson, (New York: Harper Torchbooks, 1960)

did not, as his predecessors were wont to do, approach the study of 'history' dogmatically.

More importantly, however, we should not ignore the fact that, in philosophical terms - like Kant in the field of philosophy - Clausewitz was also caught between the Scylla of the *a priori* and the Charybdis of experience. Thus, in 1809, he noted:

Formula [is] abstraction. When by abstraction nothing which belongs to *the thing* gets lost – as is the case with mathematics – the abstraction fully achieves its purpose. But when it must omit the living matter in order to hold to the dead form, which is of course the easiest to abstract, it would be in the end a dry skeleton of dull truths squeezed into a doctrine. It is really astonishing to find people who waste their time on such efforts, when one bears in mind that precisely that which is the most important in war and strategy, namely the great particularity, peculiarity, and local circumstances, escape these abstractions and scientific systems.²⁰⁵ (my emphasis)

This note suggests three fundamental points. First, as mentioned above, Clausewitz, like Kant, was concerned with the relation between the *a priori* and experience. Clausewitz, like Kant, also disavowed choosing between the one and the other, and like his intellectual predecessor, Clausewitz attempted to bridge what he deemed to be the 'gap' between the two. Thus, in his more mature *On War*, Clausewitz asserted: "Theory exists so that one need not start afresh each time sorting out the material and plowing through...it is meant to educate the

²⁰⁵ Quoted in Gat, p *A History of Military Thought*, p 194-95

mind of the future commander...not to accompany him onto the battlefield.”²⁰⁶ To support this contention, Clausewitz further noted that...

...If the theorist’s studies automatically result in principles and rules, and if truth spontaneously crystallizes into these forms, theory will not resist this natural tendency of the mind...this is in accordance with the scientific law of reason, to indicate the point at which all lines converge, but never to construct an algebraic formula for use on the battlefield. *Even these principles and rules are intended to provide a thinking man with a frame of reference for the movements he has been trained to carry out, rather than serve as a guide which at the moment of action lays down precisely the path he must take.*²⁰⁷ (my emphasis)

Second – the note refers to that from which, by abstraction, nothing gets lost – ‘*the thing*’ or the ‘the thing-in-itself’. This demonstrates a recognition and understanding of Reason in terms of an ‘elemental purity (that) will eternally exist in men’s hearts - in terms of ‘scientific laws’ and as *a priori*’. Thirdly, the note also reflects a conviction that ‘that which is the most important in war and strategy, namely the great particularity, peculiarity, and local circumstances, escape these abstractions and scientific systems’. It is evident that Clausewitz had already worked out the implications of these in as early as 1807 for, in an elegantly written note to Marie, Clausewitz had noted that ‘the universality of this global spirit cannot be expressed in the restrictive form of a code of

²⁰⁶ Clausewitz, *On War*, p 141

²⁰⁷ Ibid

laws...[for]...form itself will shatter sooner or later when the stream of time has washed away or reshaped the surrounding contours',²⁰⁸

Gat suggests that the note that Clausewitz had written to his wife in 1807 betrays a fusion of Enlightenment and Romantic influences in Clausewitz's thinking and work, particularly, the "blending of a high degree of sensitivity to the diversity of historical experience - with a belief in certain universal elements...typical of the early period of historicism."²⁰⁹ Be that as it may, from the perspective of this study, these three points also inform Clausewitz's strategic intent – the positing of an architectonic which, while not being 'dogmatic', and thus architectural - as he perceived the systems offered by his predecessors as being - would nevertheless be a universal 'frame of reference' for the discussion of war, particularized by the specifics of individual experience. Clausewitz's 'methodology', therefore, remained a balancing act between the development of rules and principles, which would, in his words, "not be a positive doctrine, a sort of manual for action", rather, it would be a 'critical analysis' which, to Clausewitz – here betraying a distinctly Kantian influence – was "the application of theoretical truths to actual events."²¹⁰ These observations, taken together, serve not only as examples of the significant indebtedness of Clausewitz's martial

²⁰⁸ In the context of the letter to Marie, Clausewitz refers to 'virtue', where 'virtue' is an *a priori* concept and category.

²⁰⁹ Gat, *A History of Military Thought*, p 196. Bassford makes a similar point. See Christopher Bassford, "Jomini and Clausewitz: Their Interaction", Paper presented to the 23rd Meeting of the Consortium on Revolutionary Europe, Georgia State University, 26 February 1993. Available at <http://www.clausewitz.com/CWZHOME/Jomini/JOMINIX.htm>. Last accessed on March, 2008.

²¹⁰ Clausewitz, *On War*, p 141, p 156

theorizations to the Kantian philosophical project, they are also representative of a core philosophical tension that runs through the heart of his *On War*.

Despite what we can already discern – albeit faintly – as being an emerging architectonic in Clausewitz’s theoretical efforts, we should not ignore his insistence on asserting that...

[G]iven the nature of the subject, we must remind ourselves that it is simply not possible to construct a model for the art of war that can serve as a scaffolding on which the commander can rely for support at any time. Whenever he has to fall back on his innate talent, he will find himself outside the model and in conflict with it; no matter how versatile the code, the situation will always lead to the consequences...*talent and genius operate outside the rules, and theory conflicts with practice.*²¹¹ (emphasis in original)

Thus, one may ask: Given the “nature of the subject”, how then is it even possible to attempt at providing a theory of war?

ii. *Clausewitz, Theorizing...*

The answer lies in one of the most curious, and by far the most interesting, sections of his famous text, *On War*, titled, ‘On the Theory of War’. After engaging in a brief discussion between the understandings of ‘war’ as a ‘science’ and as an ‘art’, which is not of primary interest to us here, Clausewitz then

²¹¹ Clausewitz, *On War*, p 140

proceeded to identify the “Alternatives which Make a Theory Possible”.²¹² Clausewitz’s central concern was to highlight how ‘theory’ need not necessarily conflict with ‘reality’ – a criticism that he continually levied on his predecessors and their ultra rationalistic theories of war. Though the problem associated with ‘reality’ is essentially an ontological one, Clausewitz began by suggesting that “[I]t is the task of theory...to study the nature of ends and means”²¹³ thus calling for a consideration of the problem in epistemological terms. Further Clausewitz insisted on such an epistemological consideration by defining ‘war’ as “fighting, for fighting is the only effective principle in the manifold activities generally designated as war.”²¹⁴ The significance of this, Clausewitz pointed out, lay in the fact that a general theory which purports to be “valid for the majority of the cases and not completely unsuitable for any...must be based on the most prevalent means and their most significant effects.”²¹⁵ To further reiterate the point, Clausewitz also draws our attention to the two main categories that characterize war, namely, the preparations for war, and war proper.²¹⁶

Following through with this program, Clausewitz’s next attempted to identify what he perceived to be the “Principle Problems in Formulating a Theory of the Conduct of War.”²¹⁷ As pointed out earlier, Clausewitz suggested that ‘theory should be study, not doctrine’. When read in the context of the principle

²¹² Ibid, p 140

²¹³ Ibid, p 146

²¹⁴ Ibid, p 127

²¹⁵ Ibid, p 128

²¹⁶ Ibid, p 131

²¹⁷ Ibid, p 137

problems that are confronted while formulating a general theory of war such as, the ‘effects of danger’, intellectual qualities, moral forces and effects’, and the uncertainty of information, we find that Clausewitz’s attempt was not so much to erect an immutable, indestructible and universal ‘architecture’ of war, rather, it was an attempt to lay out the field of war – a space or a domain that would, in his words,

admit the feasibility of a satisfactory theory of war – *one that will be of real service and will never conflict with reality*. It only needs [according to Clausewitz] intelligent treatment to make it conform to action, and to end the absurd difference between theory and practice that unreasonable theories have so often evoked.²¹⁸ (my emphasis)

This, as we have seen, Clausewitz proceeded to do by delineating the “concepts of method and routine...that governs the world of action like a duly constituted authority.”²¹⁹ Only after repeatedly clarifying the epistemological implications of the problem, did Clausewitz partially address the ontological dimensions of the problem by suggesting that the primary purpose of any theory was “to clarify concepts and ideas”.²²⁰

Clausewitz identified ‘law’, ‘principle’, ‘rule’, ‘regulations and directives’ and ‘method’ as being “the logical hierarchy that governs...action.”²²¹ But, he was too astute and philosophically-minded to fall into the trap of propounding

²¹⁸ Ibid, p 142

²¹⁹ Ibid, p 151

²²⁰ Ibid, p 132

²²¹ Ibid, p 151

'laws' that could or would rigidly govern 'war' and in this he clearly distinguished himself from his illustrious predecessors. Clausewitz chose to ignore the two narrow and formal understandings of 'law'— first, 'as a matter of cognition' where it is 'the relationship between things and their effects', and second, "as a matter of will...synonymous with decree and prohibition."²²² Instead, Clausewitz artfully opted for an understanding of 'law', which in his own words,

...is the broadest concept applicable to both perception and action. *In its literal sense, the term obviously contains a subjective, arbitrary element, and yet it expresses the very thing on which man and his environment essentially depend.*²²³
(my emphasis)

This he related to the notion of 'principles'. Consider, for example, the following:

In the conduct of war, perception cannot be governed by laws: the complex phenomena of war are not so uniform, nor the uniform phenomena so complex, as to make laws more useful than the simple truth....Nor can the theory of war apply the concept of law to action, since no prescriptive formulation is universal enough to deserve the name of law be applied to the constant change and diversity of the phenomena of war.²²⁴

For any theorist attempting to develop and articulate a 'general theory of war', this poses a formidable problem for, as Clausewitz's words indicate, while the

²²² Ibid

²²³ Ibid

²²⁴ Ibid, p 152

phenomenon of war may be a universal one, its particular manifestations are too complex and diverse to be codified under the heading of 'laws'. But Clausewitz gets around this hurdle by discussing 'principles', which he suggests are...

...law[s] of action, but not in its formal, definitive meaning; [they] represent only the spirit and the sense of the law: in cases where the diversity of the real world cannot be contained within the rigid form of law, the application of principle allows for a greater latitude of judgment.²²⁵

Further, Clausewitz drew a distinction between an *objective* principle and a *subjective* one where the former was based on *objective truths*, while the latter on *subjective considerations*. In this way, Clausewitz was able to close the gap between 'rules', and 'laws' by emphasizing, a trifle disingenuously, on their being roughly "synonymous with principle".²²⁶ Clausewitz thus indicated that 'laws', 'principles' and 'rules' – understood in the above sense - "enables us to derive a general law of action".²²⁷ In the context of this study, it is important to mark that this is nothing less than a statement exclaiming the strategic intent of Clausewitz's celebrated, albeit incomplete, work, *On War* - an intent to provide a 'general theory of not simply the manifestations of war, but also of the phenomenon of war itself'.

²²⁵ Clausewitz, *On War*, p 151

²²⁶ Ibid

²²⁷ Ibid

iii. *Clausewitz, Strategizing...*

Admittedly, Clausewitz related this most curious assessment to a narrower discussion of 'strategy' and 'tactics', but the implications of his theory-building exercise cannot be missed. *Simply put, what Clausewitz was engaging in was the development of a 'structure' of thinking that would guide not simply the employment of strategy and tactics in the conduct of war, but also a general strategic mode of thinking about 'war'.* In other words, 'principles' and 'method' both of which, it will be appreciated, are descriptive *and* prescriptive in nature form the sinews of a patently Clausewitzian architectonic of war.²²⁸

Recall, in this context, Clausewitz's letter to Marie (1809). In it he wrote:

...It is really astonishing to find people who waste their time on such efforts, when one bears in mind that precisely that which is the most important in war and strategy, namely the great particularity, peculiarity, and local circumstances, escape these abstractions and scientific systems.²²⁹

²²⁸ Of course, scholars like Bassford will argue this differently. Thus, for example, note what he says in the context of how to read Clausewitz: "There are essentially two ways to read Clausewitz. The first is to pore through the pages of *On War* looking for practical hints and military prescriptions. These are certainly present, despite Clausewitz's insistence that fundamental theory must be descriptive, not prescriptive." Further, in a related footnote, Bassford criticizes Keegan for ignoring this. Therein he notes: "Keegan... ignores this fundamental of Clausewitzian theory and says that Clausewitz was "struggling to advance a universal theory of what war *ought* to be, rather than what it actually was and had been." (emphasis in original) See, Christopher Bassford, "John Keegan and the Grand Tradition of Trashing Clausewitz: A Polemic", in *War and History*, v.1, no.3 (November 1994). It is interesting to note that the footnote quoted in its entirety above critiques Keegan for assuming that Clausewitz was advancing a universal theory of 'what war ought to be'. The critique is not about Keegan assuming that Clausewitz was indeed propounding a universal theory of war. Read in this way, it could thus be said that Bassford does not contest the notion that Clausewitz was propounding a 'universal theory of war'. Seen in this light, then, however valid Bassford's immediate critique of Keegan's reading of Clausewitz maybe, nevertheless, essentially, a 'universal theory of war' is not limited to a descriptive role, it is prescriptive too else the word 'universal' loses, for lack of a better word, its universality.

²²⁹ Quoted in Gat, *A History of Military Thought*, pp 194-95

Thus, unlike Guibert or, more to the point, Jomini, Clausewitz desisted from producing an 'architecture' of war, rather, he made allowance for 'chance', 'diversity' and the 'unknown' by positing 'laws' ('...the broadest concept applicable...'), principles, and rules, which serve to enable, in his words "an analytical investigation leading to a close acquaintanceship with the subject [of war]...*The closer it comes to that goal, the more it proceeds from the objective form of a science to the subjective form of a skill...*"²³⁰ (my emphasis) Note how Clausewitz, with consummate care, deftly navigated through the 'dogmatic' grounds occupied by his predecessors. To appreciate Clausewitz's theoretical dexterity and the impact it had on his project as a whole it is necessary to take a step back and briefly remind ourselves of the influence that the philosophies of the Romantic Age had on the evolution and development of military theory *and* the study of war.

Perhaps an adequate and pertinent summation of the mood of the Romantic philosophy at the time may be found in Victor Hugo's proclamation, "All systems are false; only genius is true."²³¹ It will be recalled that one of the most critical factors that distinguished the Romantics from their predecessors was the former's resistance to the...

²³⁰ Clausewitz, *On War*, p 141 It is necessary to note that the apparent distinction between Jomini and Clausewitz, as has been suggested by a number of military theorists and scholars, may not be as clear-cut as they may have suggested. For a cogent analysis of the inter-relationship between Jomini and Clausewitz, see, Christopher Bassford, "Jomini and Clausewitz: Their Interaction", Georgia State University, 26 February 1993. See also, Major Francis S. Jones (USAF). "Analysis and Comparison of the Ideas and Later Influences of Henri Jomini and Carl von Clausewitz", Paper, Maxwell Air Force Base, AL: Air Command and Staff College, April 1985.

²³¹ Quoted in Hugh Honour, *Romanticism*, (New York: Westview Press, 1979), p 22.

...rational tidiness of the Enlightenment...a rational world that could be examined, understood, and controlled by Reason...[wherein]...[T]he methods and principles of natural science were to be applied to a whole range of human experience, including the moral universe, to reveal the rational simplicity of reality.²³²

In this way, Romantic philosophy, in general, eschewed the strict bounds of the rational and was more concerned with the non-rational. It will also be recalled that Kant - “a consummation of the Enlightenment...[and]...as a wellspring of German Idealism”²³³ - while working to position Reason as the ‘highest tribunal’, also made room for what he called the ‘antinomy’.²³⁴ This was nothing less than a tacit acknowledgment, by Kant, that even from within the prism of ‘pure reason’, there were some things that Reason itself could not address. Among other things, this also allowed for a refocusing on the possibility of Chance which, till then was, as Lynn puts it, “...a threat to the predictable and the regular...[It] now became a major factor, an unavoidable and accepted determinant.”²³⁵

Not surprisingly, Clausewitz followed a similar trajectory. As we have seen, having first critiqued what he considered as the straitjacketed approach of his predecessors to the study of war, Clausewitz began to develop a more flexible approach – an architectonic – in which allowances could be made not only for all that lay within, but also potentially beyond the reach of Reason. In this way, Clausewitz was also attempting to account for – to take stock of - probabilities,

²³² Lynn, *Battle: A History of Combat and Culture from Ancient Greece to Modern America*, p 190

²³³ Lynn, *Battle: A History of Combat and Culture from Ancient Greece to Modern America*, p 191

²³⁴ Caygill, *A Kant Dictionary*, p 75-77.

²³⁵ Lynn, *Battle: A History of Combat and Cluture from Ancient Greece to Modern America*, p 191

chance, and the unexpected. What is novel about Clausewitz is the tack that he took to address this problematic and it is, quite justifiably, one of the lasting legacies that Clausewitz has left to the study of war.

(de) Constructing War, absolutely...really...

Clausewitz defined war as “an act of force to compel our enemy to do our will.”²³⁶ Noting in passing the striking similarity between this definition and Vattel’s view on the ‘object’ of war which, as we have seen, ‘was to do whatever is necessary to bring an opponent to ‘reason’,²³⁷ we find that Clausewitz was also careful to base his definition on ‘hostile intentions’, which he qualified in the following manner:

...Two different motives make men fight one another: *hostile feeling* and *hostile intentions*....Even the most savage, most instinctive, passion of hatred cannot be conceived as existing without hostile intent...it is the most universal element...[I]t would be an obvious fallacy to imagine war between civilized peoples as resulting merely from a rational act on the part of...governments and to conceive of war as gradually ridding itself of passion...That would be a kind of war by algebra.²³⁸ (emphasis in original)

Clausewitz then drew three conclusions from this. First, he identified two primary aspects of war – Absolute War and Real War; second, he concluded that ‘the original motive’ for war resided in its ‘political object’, and third, he concluded -

²³⁶ Clausewitz, *On War*, p 75

²³⁷ See <http://www.lonang.com/exlibris/vattel/>. Book 3, Chapter 3, # 26. See above, p 47.

²³⁸ Clausewitz, *On War*, p 76

“no other human activity is so continuously or universally bound up with chance.”²³⁹ These conclusions enabled Clausewitz to propose what has since become famous as the paradoxical trinity of war. In his words...

...War is more than a true chameleon that slightly adapts its characteristics to the given case. As a total phenomenon its dominant tendencies always make war a paradoxical trinity – composed of primordial violence, hatred, and enmity, which are to be regarded as a blind natural force; of the play of chance and probability within which the creative spirit is free to roam; and of its element of subordination, *as an instrument of policy, which makes it subject to reason alone.*²⁴⁰ (my emphasis)

Thus, if we could speak of the ‘components’ of war then, based on the above, they would be (1) a blind natural force and, (2) the (inter)play of chance and probability.²⁴¹ The third element was not strictly a component of war – it was an indication, albeit a critical one, of war’s potentiality to be instrumentalized. Thus, when Clausewitz mentions that the motive of war lies in its political object, we should be careful to recognize that he is not referring to war as an originary condition or phenomenon, rather, he is pointing to the domain within which the phenomenon of war is most likely to be triggered and actualized. For Clausewitz, therefore, in originary terms, war’s principal components were only two in number - blind natural force and the play of chance.

²³⁹ Ibid, pp 75-89, 85

²⁴⁰ Ibid, p89

²⁴¹ Katherine L. Herbig makes a similar point though, as we will, see Herwig's assessment is deeply problematic, indeed contradictory, when we discuss the Chance and the Genius below. See Katherine L. Herbig, “Chance and Uncertainty in On War” in *Clausewitz and Modern Strategy*, Ed. Michael Handel, (Oxford: Frank Cass, 1986), pp 95-116

Recall that Clausewitz's stated objective was to devise a 'methodical procedure...to meet the most probable cases...based on the average probability of analogous cases. Its aim...to postulate an average truth'. The critical move that Clausewitz made in this context was to postulate an *a priori* distinction within the concept of 'war' in terms of Absolute and Real War and by establishing by identifying the limit of Reason in the phenomenon of Absolute War. Thus, early in *On War*, he presented the "essence of war...as an eruption of force and violence",²⁴² which he understood as 'true war, or absolute war'.²⁴³ For Clausewitz, this 'true war, or absolute war', was nothing but "a struggle for life and death – a struggle, that is, in which at least one of the parties is determined to gain a decision."²⁴⁴ The implicit annihilation that awaited the participants of an Absolute War – going by its logic of strikes and counter-strikes – was a fact that was not underestimated by Clausewitz. Indeed, he frequently cites the example of the campaigns of Napoleon as being a proximal condition of Absolute War in Real terms. As a point of passing interest – we should bear in mind that some scholars, particularly Gat, suggest that Clausewitz's later writings indicate that it was on this very point that "Clausewitz's view of the nature of war as all-out fighting, centering on the engagement, fell into crisis."²⁴⁵ For our purposes, however, we only need take note of the following:

²⁴² Gat, *A History of Military Thought*, p 225

²⁴³ Clausewitz, *On War*, pp 488-489

²⁴⁴ *Ibid*, p 488

²⁴⁵ Gat, *A History of Military Thought*, p 215

1. First, Clausewitz's analysis of the theories of his predecessors - informed by a close examination of military history - suggested to him that 'the universally valid element' of the conduct of war was 'saturated by the urge for a decision', which necessarily implied the absoluteness of violence - though he did accept that "[T]he age in which this postulate...was at its strongest was the most recent one,"²⁴⁶ that is to say, the age preceding his.²⁴⁷ Clausewitz insisted that 'absolute war' was an expression of the *logical necessity* to overthrow the enemy; it is the succession of blows and counter-blows struck with almost equal energy.²⁴⁸ In other words, Absolute War, presuming no external influence, was the maximum effort - applied repeatedly - at a decisive point - for a decisive decision - *with a single logical object*: Absolute defeat of an enemy. This 'logic' was, in Clausewitz's words, war's "...*natural tendency...in its philosophical and strict logical sense alone and does not refer to the tendencies of the forces...including...the morale and emotions of the combatants.*"²⁴⁹ (my emphasis) Clausewitz further asserted that this logic remained true regardless of whether war was a duel between two contestants, or a hostile engagement between coalitions of nations. Based on the above, it could then be said that Absolute War – that is, the logic of war – displays two characteristics: (1) by virtue of being, at the least, co-constituted by 'blind

²⁴⁶ Clausewitz, *On War*, p 593

²⁴⁷ Clausewitz, *On War*, pp 488-489

²⁴⁸ Ibid, p 579

²⁴⁹ Ibid, p 89. Note that Clausewitz, elsewhere in *On War*, insists that 'war has no logic, it only has a grammar'. This is, to say the least, a most curious statement for Clausewitz is claiming that a 'grammar' is bereft of logic.

natural force', it was, to some measure, independent of the political because as a pure expression of blind natural force, the 'succession of blows and counter-blows' need have no basis in the political and (2) when this blind natural force did manifest itself within the political, it could potentially "usurp the place of policy the moment policy had brought it into being; it would then drive policy out of office and *rule by the laws of its own nature.*"²⁵⁰ (my emphasis) We need to be careful here. Clausewitz insists that "in the field of abstract thought...it [i.e., war] reaches the extreme, for here it is dealing with an extreme: *a clash of forces freely operating and obedient to no law but their own...an almost invisible sequence of logical subtleties.*"²⁵¹ (my emphasis) Clausewitz absolutely insists that this 'logic' of war that determines the 'succession of blows and counter-blows' is not simply an in-human logic, but also a non-human logic. Thus, we would do well to resist the temptation of overlaying this non-human logic of Absolute War with peculiarly anthropocentric hues.

It is equally critical that we recognize Clausewitz's subtle but simultaneous assignment of two versions of Absolute war – as the 'logic of war' independent of the political *and* as 'the logic of war' at the disposal/ service of the political. But Clausewitz's initial assessment of the dangers posed by Absolute War – as the logic of war – regardless of it being either subject to the political or not remained unchanged. He

²⁵⁰ Ibid, p 87

²⁵¹ Clausewitz, *On War*, p 78

contended that the logic of war – in the Absolute sense - devoid of emotion, morale and feelings – was marked by *its desire* for the annihilation/ the absolute defeat of the enemy and thus was dangerous and destructive.²⁵² Indeed, he also added the corollary that like in its ‘true’ state, this logic – even when manifested within the political - was equally (more to the point, materially) destructive and, therefore, dangerous – as, Clausewitz claimed, it was in the hands of Napoleon.²⁵³ Thus, it is not surprising that Clausewitz insisted that any theory of war *must* make room for Absolute War. Indeed, according to Clausewitz, Absolute War *must* be the principle that is invoked to “form a general point of reference, so that he who wants to learn from theory becomes accustomed to keeping that in view constantly, to measuring all his hopes and fears by it, and to approximating it *when he can* or *when he must*.”²⁵⁴(emphasis in original) It is important, at the risk of repeating ourselves, to emphasize that the principle of Absolute War, for Clausewitz, lay in its ‘logic’ and not in its instrumentality. The latter – as in the case of Napoleon, Caesar and Alexander – were mere instances of the Absolute principle in operation in the expanse of history and in the space and service of the political. A point of interest that is of relevance and here and which we will consider in some detail in the succeeding chapters is that this Clausewitzian concept

²⁵² Note: Clausewitz, as this study suggests, implies a non-human conception of the ‘logic of war’. In this sense, it is outside the framework of Reason. But, as we will see, this is also strictly not the case.

²⁵³ Ibid, p 592-593

²⁵⁴ Ibid, p 581

of Absolute War (i.e., the logic of Absolute War) bears a startling resemblance to Deleuze's 'war machine' run amuck.

2. Second, Clausewitz's historical research also showed him that though this 'logic of war' may be a 'universal element' and in this sense, 'the rule', the history of warfare in every age and country, paradoxically, showed that the majority of wars/ campaigns did not even approximate the universal element, thereby making the latter seem more of an exception rather than the rule.²⁵⁵ Gat suggests that this discovery posed a dilemma to Clausewitz and that, as a consequence, Clausewitz found his 'lifelong conception of theory' being shattered.²⁵⁶ Contrarily, this study suggests that the issue at stake is not whether Clausewitz's 'concept of war' (Absolute War, which we have discussed in terms of the logic of war within *and* without a political context) failed to pass the test of experience. Nor is it the case that "the unity of the phenomenon of war, based on a lasting spirit that encompassed the diversity of forms, disintegrated; and the practical imperatives derived from this spirit – the significant content of theory – lost their validity."²⁵⁷ It is simply that Clausewitz deduced – based on the evidence of his historical research – that the 'logic of war' that he identified as Absolute War was incomplete. It needed to address, by including within its ambit, the element of possibilities, probabilities, chance and uncertainties to be fully workable. Clausewitz's historical

²⁵⁵ Clausewitz, *On War*, p 501; Gat, *A History of Military Thought*, p 212-216

²⁵⁶ Clausewitz, *On War*, p 488-489, Gat, *A History of Military Thought*, p 215

²⁵⁷ Gat, *A History of Military Thought*, p 216

researches also showed that in this expanded form a theory of war could indeed be devised that could conceivably accommodate the rich, wide and varying particularities of history.²⁵⁸

3. Third, and most tantalizingly, Clausewitz fleetingly refers to ‘the pure concept of war’.²⁵⁹ It will be recollected that, for Clausewitz, the dual forces that tempered the Absolute logic of war were, on the one hand, reason (the political) and on the other, the interplay of possibilities, probabilities - of good and bad luck – and of instances in which strict logical reasoning often plays no part at all. These latter forces, Clausewitz reminded us, “[were] always apt to be a most unsuitable and awkward intellectual tool.”²⁶⁰ Now, an overwhelming number of scholars and theorists view the interplay of possibilities and probabilities, collectively ‘chance and uncertainty’, as a qualification, albeit an important one, of Absolute War (that is, the logic of war) – a qualification that allows for the phenomenon of Absolute War to be experienced as Real War. This is not surprising as such a qualified understanding of chance and uncertainty is also textually supported in *On War*. Thus, for instance, we find Clausewitz musing about the following:

Why is it that the theoretical is not fulfilled in practice? The barrier in question is the vast array of factors, forces and conditions in national

²⁵⁸ Clausewitz, *On War*, p 579-81

²⁵⁹ See, for example, Clausewitz, *On War*, p 78

²⁶⁰ *Ibid*, p 581

affairs that are affected by war...Logic comes to a stop in this labyrinth...This inconsistency...is the reason why war turns into something quite different from what it should be according to its concept...turns into something incoherent and incomplete.²⁶¹

Here, quite obviously, Clausewitz is qualifying, that is to say, he is marking out a distance between Absolute War and Real War – that is to say, between the theory and practice (of war) – and points to a ‘non-conducting medium’, in which “[N]o logical sequence could progress...as it were a simple thread that linked two deductions.”²⁶² But it is also interesting to note that he is simultaneously pointing to another condition – a condition referred to by Clausewitz as ‘the pure concept of war’ which he, by what can be described as a sleight of hand, conflated with principle of Absolute War. Note what Clausewitz says:

...the natural aim of military operations is the enemy’s overthrow, and that *strict adherence to the logic of the concept can, in the last analysis, admit no other...we showed how factors inherent in the war-machine itself can interrupt and modify the principle of enmity as embodied in its agent, man, and in all that goes to make up warfare.* Still, that process of modification is by no means adequate to span the gap between the pure concept of war and the concrete form that, as a general rule, war assumes...*Generally it is not a case in which two mutually destructive elements collide, but one of tension between two elements, separate for*

²⁶¹ Ibid, p 579. Note, Gat, in his *History of Military Thought*, translates ...*der philosophischen Vorstellungsweise*...as ‘philosophical conception’, (p 221) whereas Howard and Paret in their standard translation of *On War* render it as “the theoretical concept”. We have followed the Howard/ Paret version.

²⁶² Clausewitz, *On War*, p 579

*the time being, which discharge energy in discontinuous, minor shocks.*²⁶³ (emphasis mine)

As we have seen, and as Clausewitz reiterates in the passage above, the logic of Absolute War is all-encompassing for it allows no other. The logic of Absolute War dictates that two elements will collide in a mutually destructive manner from which there is no possibility of escape. The outcome of the progress of such a logic will, therefore, be either the annihilation of any one party or (particularly in the nuclear age) the mutual destruction of both participants. While it may not be possible for us (humans) to identify or assign a meaning to the logic operative in such a condition, it can, however, be rationally calculated. This remains the case even if we take into account the myriad of instances where chance and uncertainty make their presence felt as the fog and friction of (absolute) war generated within and experienced by the 'war-machine'. In the context of the 'concrete form' of Real War, the play of chance and uncertainty is even more pronounced, though the pronouncement is more in the form of additional complexities that are factored into war and its conduct. Clausewitz also notes that the 'process of modification', that is to say, the factors – collectively, chance and uncertainty – that temper the logic of Absolute War and which apply to the more concrete form of Real War do not span the gap between these two 'faces' of war. Note that Clausewitz here - operating within a Kantian regime of Reason – is not

²⁶³ Clausewitz, *On War*, p 579

suggesting that Absolute War or Real War is incomprehensible or incoherent. But he does say that the gap between the theory and practice of war is incomprehensible and incoherent – a condition in which logic (and one could add Reason) comes to an end. Note also that this condition is in excess of not simply Real War, but also of Absolute War. This study contends that this excessive condition – that which stands in stark contrast to both Absolute and Real war - is the concept of 'pure war' that Clausewitz fleetingly refers to. It is further suggested that Clausewitz was fully cognizant with the force of this concept and recognizing its potency was forced to constrain it to as far an extent as possible. It is important to reemphasize that this space occupied by the pure concept of war is one of absolute incomprehension, where the Other of Reason comes into play. From Clausewitz's point of view, this situation would have been untenable. Thus, he insists on conflating this pure concept of war with Absolute War and then tempering the theory of Absolute War by being "...prepared to develop our concept of war...by leaving room for every sort of extraneous matter."²⁶⁴ Indeed, for Clausewitz, the critical series by which he developed his architectonic of war was nothing less than Pure War<>Absolute War<>Real War. Note that pure war is tempered by the affixation of a logic (which under some circumstances may be comprehensible, but not always necessarily so), which yields the phenomenon of Absolute War. To Absolute War, a number of orders of chance and uncertainty are added – such as the fog and friction of war,

²⁶⁴ Clausewitz, *On War*, p 580

“natural inertia...the friction of its parts, all the inconsistency, imprecision, and timidity of man; and finally the fact that war and its forms result from ideas, emotions, and conditions prevailing at the time”²⁶⁵ – that may be theoretically calculable, but practically very difficult to compute. This is the phenomenon of Real War. As we will see, however, the matter does not simply end there because, for Clausewitz, Chance (in extremis, as the anterior condition to Reason) also represented the possibility of Reason extending its dominion over that absolute Other of Reason. When considered, particularly in the latter way, Clausewitz’s introduction of Chance in the context of his theory of war was a move that ultimately served to ‘bring war to reason’.

On the question of why Clausewitz adopted this stance, the answers are many and some are quite obvious. Thus, for example, the intention to bind war within an architectonic of reason was one of Clausewitz’s stated objectives. It could also be the case that perhaps Clausewitz recognized that the phenomenon of war was something that while being apparently recognized and subject to critical analysis in political terms, was actually in excess of such circumscriptions. Thus, perhaps, his insistence on taking into account the concept of Absolute War (informed by the pure concept of war) within any consideration of war-as-such. Certainly, Clausewitz’s exposure to the philosophies of the Enlightenment would have imparted to him a confidence in the prospect of ultimately understanding the mysteries of nature. In equal measure, Clausewitz’s exposure to the Romantic

²⁶⁵ Clausewitz, *On War*, p 580

philosophies of his time would have taught him to have a healthy respect for the 'unknown unknowns'. Regardless, however, when viewed in the context of the strategic object of Clausewitz's theorizing efforts, it is important for us to note that the recognition and introduction of Chance was nothing less than an enabling - co-constituting – principle that allowed him to design a viable architectonic of war itself.

Recall that originally, for Clausewitz, Absolute War exhibits a logic bereft of any emotions, feeling and morale – regardless of whether this logic is expressed within or without 'the political'. If, as this study speculates, it was indeed the case that Clausewitz took the above view of Chance, that is to say, he recognized the presence of chance, as an anterior condition to the logic of war (Absolute War), then Clausewitz's fleeting reference to 'the pure concept of war' remains in excess of Absolute War in both its senses - as the logic of war and/ or its destructive operation/ manifestation in the political context. This study suggests that for Clausewitz, *the 'pure concept of war' was this excess that was anterior to Absolute and Real War. This concept of war, in its originary purity, is spectral but Real. It eludes our efforts to grasp it; nevertheless, it leaves its empirical traces in the form of chance and uncertainty.*²⁶⁶ But when considered in the context of a theory-building exercise, as Clausewitz himself noted, this 'pure concept of war (even in its modified form of Absolute War) was an unreliable

²⁶⁶ Note that the notion of 'chance' being invoked in this specific context is different from that used by Clausewitz as an instrument to 'tame' the phenomenon of war. We will have occasion to take a closer look at this 'other' notion of chance when we investigate Clausewitz's strategizing of chance and uncertainty below.

tool. Thus, in theoretical and operational terms, Clausewitz used 'chance and uncertainty' as an instrument – like the political – to temper and reign in the incoherence of the 'pure concept of war' by making it Real as Absolute War, which in turn was made material as Real War.²⁶⁷ This Clausewitzian gesture speaks volumes for by it he not only obviated the need to ignore chance and uncertainty which, going by his own arguments, could only be ignored at one's peril, but also revealed much about the 'pure concept of war' which proved to be ungraspable in the Real despite the empirical traces left by it. In this way, as we can see, all along, at a subtle philosophical level, the central problem that Clausewitz was confronting, and proactively working to address, was nothing less than the problem posed by the question: 'how to think when thinking is chaotic at its core'?

Put in this way, it is easy to understand why Clausewitz may have struggled with the idea. It is obvious that implicit in the Clausewitz's 'pure concept of war' there is an apparently unbearable tension. This is reflected in Clausewitz's insistence on the absolute inability of Reason to apply reason to the pure concept of war. Then again, it should also be mentioned that Clausewitz – in keeping with his times - was also fairly confident of Reason's ability to extend its

²⁶⁷ To be fair, this point of view is held by a number of students of Clausewitz. What these scholars say is that Clausewitz viewed the phenomena of chance and uncertainty as prospects...opportunities...situations that can be taken advantage of. Indeed, Clausewitz himself says so in *On War*. What these scholars do not highlight and what Clausewitz does not point out, however, is how this stance – that of exploiting chance - adopted by Clausewitz also reveals much about his strategic object – to devise an architectonic within which the discussion of war could possibly take place.

reach by conquering Chance and subordinating it to Itself.²⁶⁸ Indeed, after the publication and acceptance of Kant's *First Critique*, Reason had subordinated itself to the highest tribunal – Itself. But while doing so, it also had to acknowledge its own limit. Note what Kant says in the Preface to *The Critique of Pure Reason*: "Human reason has a peculiar fate in one kind of its cognitions: it is troubled by questions that it cannot dismiss, because they are posed to it by the nature of reason itself, but that it cannot answer, because they surpass human reason's every ability."²⁶⁹ The question regarding Chance was one potent example of Reason confronting that which surpassed human reason's every ability. But this did not mean that Reason did not either resist or even proactively combat its Other. Thus equipped, Clausewitz began his tentative attempt to bridge the gap between the *a priori* concept of war – that is to say the pure concept of war disguised as Absolute War - and the experience of Real War.²⁷⁰ As we will see, this 'hope', in Hacking's words, to 'tame chance' assumed an even more real presence with the advent of the Age of Information.

However plausible and delicate the above argument may seem, we should not be too hasty in accepting Clausewitz's view that the pure concept of war was totally beyond reason and thus only needed an architectonic fashioned in part by

²⁶⁸ This is, in part, brilliantly documented by Ian Hacking in his *The Emergence of Probability: A Philosophical Study of Early Ideas about Probability, Induction and Statistical Inference*, (Cambridge, Cambridge University Press, 1999)

²⁶⁹ Kant, *Critique of Pure Reason*, (A vii), p 5. It is curious to note that despite the 'other-ness' of Chance to Reason, nevertheless, they remained 'adjacent' to each other.

²⁷⁰ Gat puts it well when he writes: "The young Clausewitz now developed a different, more comprehensive, and sophisticated synthesis of the new intellectual themes, stressing the diversity and living nature of human reality and centering on the conceptions of rules, genius, moral forces, factors of uncertainty, and history." Gat, *A History of Military Thought*, p 176.

the political and Chance. A careful second look at the above analysis already points to a partial tempering of the phenomenon of war that was always/ already at work in Clausewitz's theoretical efforts. Indeed, this element of 'tempering' is visible in one of the primary co-constituents of what Clausewitz, as we have seen, identified as the phenomenon of war - the 'logic of war' itself. Note that Clausewitz persistently describes the 'logic of war' as being mutually destructive for the combatants involved in it. *Even if we disregard, as Clausewitz does, the elements of morale, feelings and emotions in the context of Absolute War, it is impossible to ignore the thanatological consequences that accompany the 'logic of war'*. This is true not simply in the case of Real War, but also is implicit in the logic of Absolute War and in the Clausewitzian notion of pure war. In this light, it would appear that Land's circumscription of war by *Thanatos* was always-already a consideration in Clausewitz's theoretical efforts. For Clausewitz, War had always-already been subjected to, if not Reason per se, then at least to a thanatological ordering'. This, in a very material sense, marked the circle that circumscribed his understanding of the phenomenon of war – pure or otherwise. In this way, this study suggests, the Limit of 'the pure concept of War', for Clausewitz, was thanatologically (pre)determined. Thus, Clausewitz's 'pure concept of war', it would seem, was not all that 'pure' after all.

The Mesh and Net, architectonically speaking...

While we will return to the above in short order, for our immediate purposes, however, we should not fail to acknowledge the deftness with which Clausewitz conducts the discussion on the distinction between Absolute War, Real War, and this 'pure concept of War'. This, as we have seen, is reminiscent of the maneuver by which Kant had 'linked the theoretical problem of the *a priori* to spontaneity and freedom, and through them to practical philosophy.'²⁷¹ Also like Kant, Clausewitz sought to ground 'the pure concept of war' in an architectonic such that, as an *a priori* principle/ rule, it would (1) legitimize not only the formalization of an architectonic of war, but also, (2) canonize how the architectonic was designed thereby, ultimately, bringing war to reason.²⁷² Clausewitz's sketching out of an architectonic of war, thus, was nothing less than an attempt to 'tame' a phenomenon that - to him - was in excess of the scientific laws of reason and which was inextricably laced with blind natural force and chance.²⁷³ The development of an architectonic, Clausewitz realized, was the only way by which he could effect the maneuver that Kant had exercised when the latter had discussed Religion within the Limits of Reason. It is, therefore,

²⁷¹ Caygill, *A Kant Dictionary*, p 37

²⁷² Michael Handel indirectly alludes to this. He says: "In developing a theoretical ideal type linked to reality by intervening variables, Clausewitz managed to construct a concise framework incorporating all elements necessary for the study of war." See *Clausewitz and Modern Strategy*, Ed. Michael Handel, p 5. It should be noted that Handel does not make the distinction within the concept of Absolute War as we have done. Handel is, however, alluding to the Clausewitzian architectonic that we have referred to earlier.

²⁷³ There is no evidence to suggest that Clausewitz considered the 'pure concept of war' and its closely related corollary, Absolute War, in the terms suggested by this study - particularly in Chapter One. This study, on its part, does not suggest this either. However, as we will see, Clausewitz did confront an instance of what Deleuze referred to as 'pure immanence' in the form of chance and uncertainty, which were also, following the argument above, co-constituents of the 'pure concept of war'.

important for us to recognize that Clausewitz's grand/ meta strategic objective in the conceptualization and writing of *On War* was nothing less than to 'discuss War within the Limits of Reason'. This was the Mesh and the Net that Clausewitz cast over the phenomenon of war.

Clausewitz adopts two simultaneous and co-existent strategies to effect this maneuver. First, he subordinates war to politics, and second, he makes space for the Genius as Commander which, this study contends, was Clausewitz's way of instrumentalizing Chance, thereby making it into a hand-maiden of the Genius and ultimately to the phenomenon of war. As we have already seen, there were very good reasons for Clausewitz to effect this maneuver. It is indeed a telling commentary on the conceptual power and force of Clausewitz's philosophy of war that today when we speak of the Clausewitzian theory of war or, more commonly, of war in general, we tend to ignore – rather, we presume - these *a priori* elements within the concept of war operative in Clausewitz's work. Thus, we remain content to problematize war within the architectonic – the theoretical, indeed ontological, Mesh and Net - erected by Clausewitz and underwritten by a very Kantian understanding of Reason posited as an *a priori* concept/ principle.

Clausewitz set the strategic priority of his intellectual exercise by stating that his task “[was] to develop a theory that maintains a balance between...three tendencies, like an object suspended between three magnets.”²⁷⁴ These three tendencies, of course, are the famed trinity of war – blind force, chance and the

²⁷⁴Clausewitz, *On War*, p 86.

subordination of war to policy/ politics. As we have already seen, two elements of this trinity, namely, blind force and chance were ruled out by Clausewitz as being controllable. Thus, Clausewitz had to devise another method that would give substance to his efforts to devise an appropriate theory of war. This he undertook to achieve by re-emphasizing the elevated location and role of 'politics' (this geared to temper the element of 'blind natural force') and by positing the role and function of the Genius as Commander (this geared to contend with the vagaries of chance and uncertainty.)

Handel echoes the majority of Clausewitzian scholars when he suggests that “Clausewitz's greatest contribution to the study of war – his Copernican revolution, so to speak – was his emphasis on the centrality of politics in war.”²⁷⁵

Further, Handel notes...

Clausewitz demonstrated that war *makes sense* only as an extension of the logic of political action. *War divorced from political life is pointless*, for ideally, *politics pursues a rational goal* by enhancing the welfare and interests of the state. This [Handel claims] is the axiomatic foundation of his [Clausewitz's] theory of war [which] as straightforward as the idea of the primacy of politics in war is, it is also the most difficult to accept and implement in time of war.²⁷⁶ (my emphasis)

Yet, as we have seen, Clausewitz did not begin from the premise of war being subject to politics. Contrarily, the ideal - the 'pure' form of war in the abstract –

²⁷⁵ *Clausewitz and Modern Strategy*, Ed. Michael Handel, p 7. Scholars and students of war and strategic studies repeat this refrain endlessly. Among them Raymond Aron, Michael Howard, Peter Paret, Christopher Bassford, Martin van Crevald and Colin Gray are prominent names.

²⁷⁶ *Ibid.*

had, for Clausewitz, very little to do with rational goals and the logic of political action. Though, as we have seen, it did not entirely escape the thanatological considerations implicit in Reason itself. We have also seen how this prospect brought Clausewitz to the very edge of Reason – a situation similar to that what Kant had to contend with when Reason confronted an antimony, namely, the problem of Religion. The ‘canon’ represented by the above-quoted words of Handel – by way of an example - does not read Clausewitz in this way. This inversion of Clausewitz's dilemma tragically trivializes a core problematic that Clausewitz (indeed any philosopher of war) had to (and has to) contend with - something that Hermann Kahn, in an apparently unrelated context, over a hundred years later, curiously phrased as – ‘thinking about the unthinkable’.²⁷⁷ It would have been obvious by now that this study neither presumes such a reading of Clausewitz – nor does it endorse such a trivialization of Clausewitz’s theoretical efforts.

Clausewitz's first intellectual problem, thus, may be encapsulated in his efforts to contend with the non-human logic of Absolute War. In other words, for Clausewitz, though he could discern a pattern in the machinations – that is to say, the logic - of Absolute War, it also brought home to him - operating from within the Kantian regime of Reason - the very potent realness of the limits of Reason. After all, let us not forget that Absolute War was nothing more than a theoretically manageable guide to the incoherence of the ‘pure concept of war’.

²⁷⁷ Hermann Kahn, *Thinking about the Unthinkable in the 1980s*, (New York, NY: Simon & Schuster, 1984)

Under these circumstances, Clausewitz, quite naturally, would have found it increasingly difficult to theorize on war for, in philosophical terms, he would have had reached the 'maximal limits' of Reason. Among other things, this would have also conveyed to him the excess of war as a phenomenon which may also be cited as the primary reason as to why he was led to insist that no theorization of war could afford to ignore Absolute War as "a general point of reference"²⁷⁸ Among other things, this may be also be offered as evidence of Clausewitz's (perhaps tacit) recognition that perhaps 'war in its most extravagant, uninhibited and originary sense does not serve the State.'²⁷⁹ Recognizing the 'excess' of the phenomenon of war – this not being necessarily limited to the wantonness of the violence that war entails – Clausewitz found, in Handel's words, 'the logic of political action' as being a suitable but tenuous framework – in Heideggerian terms, a *gestell* – within which war could and would be contained.²⁸⁰ Thus, it is suggested, Clausewitz's positing of the rational order of politics was merely a guise by which he attempted to secure war within the realm of Reason. Of course, Clausewitz was astute enough to recognize that this *gestell* was a flimsy one – as Napoleon had demonstrated. Nevertheless, he insisted on this *gestell-ing* because – from his perspective, as Handel, among others, points out – it was the only surety by which war could even be made sense of. Moreover, it also contributed

²⁷⁸ Clausewitz, *On War*, p 581

²⁷⁹ Land, *Thirst for Annihilation*, p 150

²⁸⁰ Pursuant to this, Beyerchen writes: "Clausewitz understood political participation as stimulus for, exercise of, and constraint upon power. He knew that neither the Revolution nor the reforms created to combat it could be rolled back for long, because, as he wrote in his manuscript *On War*, "...once barriers—which in a sense consist only in man's ignorance of what is possible—are torn down, they are not so easily set up again." See Alan Beyerchen, "Clausewitz, Non-Linearity and, the Importance of Imagery" in *Complexity, Global Politics and National Security*, Ed. Alberts & Czerwinski, (Washington, D.C.: National Defense University, 1997).

to his strategic intention – that of creating an architectonic which would enable a *reasonable* theorization of the problematic of war. It is in this sense that this study suggests that there is a very real possibility that Clausewitz may have been more than aware that – in ordinary terms – war was not an extension of policy, rather, as Foucault was to theorize over a century and half later, that policy was an extension of war by other means.²⁸¹

The second strategic objective of Clausewitz's theoretical effort was to contend with Chance and uncertainty, which was even more problematic than the non-human logic of Absolute War. As we have seen, to all intents and purposes, and even reiterated a number of times by Clausewitz himself, the non-human logic of war is an abstraction - a referential point – which, in the context of Real War, is unlikely to come to pass, though Clausewitz himself claimed to see - quite intimately - the very real possibility of Absolute War manifesting itself – becoming real - in the hands of Napoleon. Thus, just as it would have seemed to Clausewitz that he had succeeded in securing war within the confines of Reason, another factor raised its head. This time, however, the problem was subversive in nature and origin for it represented an internal or *intensive* quake with/ in Reason itself. This was the problem of Chance and Uncertainty. It is important for us to recognize that this problem was altogether a different matter as compared to the blind logic of the natural forces that, according to Clausewitz, co-constituted war and which he had quite dexterously succeeded in containing within the *gestell* of

²⁸¹Michel Foucault, *Society Must be Defended – Lectures at the College de France 1975-76*, Ed. Bertani & Fontana, Trans. David Macy, (London: Allen Lane, 2003), p 15

the rational order of politics. Clausewitz realized that Chance and uncertainty were even more problematic than the 'blind forces of nature' for unlike the latter, the former intruded like unwelcome guests into the *gestell* of not simply the rational order of politics, but also within Reason itself. If Clausewitz is revered today as a pre-eminent philosopher of war, it is primarily because of his efforts in contending with Chance and Uncertainty, which he theorized in terms of 'fog and friction' in war. This acknowledgment of Clausewitz's insight is, to a great extent, warranted and justified.

As we have seen, the most common readings of Clausewitz's work, particularly, his *On War*, have tended to lessen – by inverting – the impact that Clausewitz may have intended to impart with his theorizations of Absolute War. In the case of chance and uncertainty, the literature – with a few exceptions – has simply tended to reiterate that chance and uncertainty are very critical elements in war and its conduct. But this is simply not enough. There is more to this problem than what a mere glance would suggest. *To put it in very rudimentary terms - the problem posed by chance and uncertainty is the presence of chance and uncertainty in itself.* Recall in this context the manner in which Deleuze attempted to speak about 'absolute immanence'. He said,

Absolute immanence is in itself: it is not in something, *to* something; it does not depend on an object or belong to a subject. [...] When the subject or the object falling outside the plane of immanence is taken as a universal subject or as any

object to which immanence is attributed, [...] immanence is distorted, for it then finds itself enclosed in the transcendent²⁸²

This study contends that Clausewitz, in the form of chance and uncertainty, thus encountered an instance of what Deleuze refers to as ‘absolute immanence’ – though it is unlikely that Clausewitz would have recognized it as such. In this sense, Clausewitz faced nothing less than an ontological problem. In the context of this study, it is hoped that a closer examination of how (and to a lesser extent, why) Clausewitz came to address the question regarding chance and uncertainty will not only help us to recognize the enormity and scale of the Clausewitzian project, it will also assist us to confront the single most challenging aspect of any philosophy of war.

In Fortuna’s Camp

No other human activity is so continuously or universally bound up with chance. And through the element of chance, guesswork and luck come to play a great part in war...War is the realm of uncertainty; three quarters of the factors on which action in war is based are wrapped in a fog of greater or lesser uncertainty...war is a gamble...war resembles a game of cards.²⁸³

With these lines, Clausewitz opened his campaign against Chance and Uncertainty and the impact of his efforts remain with us till today. Let us,

²⁸² Deleuze, *Pure Immanence*, pp 26-27

²⁸³ Clausewitz, *On War*, pp 85, 101, 86

however, begin by first reviewing the immediate context in which Clausewitz came to confront these twin disruptive phenomena. Herbig informs us that...

...Clausewitz looks at how chance affects planning, implementing, and the very thinking of wars; at what qualities commanders must have to surmount chance and uncertainty; at how chance shapes interactions between adversaries. He mulls over uncertainty's sources and its distortion of the environment. He focuses on chance in his theories of the nature of war...considering how the realities of chance affect the possibility of arriving at a theory.²⁸⁴

While this serves as an adequate summation of Clausewitz's concerns regarding Chance and Uncertainty, Herbig, quite correctly, also informs us that in his *magnum opus*, Clausewitz addresses these issues in a somewhat haphazard manner. Thus, Herbig, referring to 'chance' notes, "[T]hese questions arise here and there in *On War*. Sometimes Clausewitz separates chance and uncertainty, sometimes he confounds them, and he often imbeds them in the context of other issues."²⁸⁵ Herbig then, helpfully, suggests that...

there are four clusters of ideas which...are just loosely structured enough to allow us to draw more informed inferences...on the nature of war, on the personal qualities and ideas of the commander, on the relationship of chance and uncertainty (*sic*), and on the options for action in the face of these contingencies.²⁸⁶

²⁸⁴ Katherine L. Herbig, "Chance and Uncertainty in *On War*" in *Clausewitz and Modern Strategy*, Ed. Michael Handel, p 96

²⁸⁵ *Ibid.* p 96

²⁸⁶ *Ibid.*

Herbig's 'classificatory' scheme, though helpful in its own right, does not however further our project to (1) investigate the singular problem of chance and uncertainty as confronted by Clausewitz and, more importantly, (2) of appreciating precisely 'how' and to what effect Clausewitz sought to ameliorate the perceived effects of Chance and Uncertainty. To be sure, Herbig does mention Clausewitz's theorization on the nature and role of the Commander in the context of Chance and Uncertainty, but her investigation is not sustained and certainly does not address (1) precisely why Clausewitz chose to emphasize the role of the Commander in the context of these twin disruptive phenomena and (2) the consequence of the Clausewitzian understanding of the Genius as Commander. Herbig does, however, temptingly suggest that "to advance the theory of warfare one must grasp the effects of chance on the commander...[and]...in how well each commander could apply the ideas – not specific solutions – in *On War* to his own unique problems."²⁸⁷ For the purposes of this study, however, this does not suffice, for here – like in the case of the 'political' - Clausewitz effects a tactical maneuver, which while geared to address the question of chance and uncertainty in operational terms, also marks a turn to the instrumentalization of Chance and, of that utterly Romantic figure of the Genius. Previously we noted that Clausewitz, in keeping with the intellectual developments of his time, would have very likely considered Chance as the Absolute Other of Reason. This, we asserted, was the case because, as a philosopher of war inspired by Kant, Clausewitz would have been well-placed to recognize Chance as being a 'limit-

²⁸⁷ Katherine L. Herbig, "Chance and Uncertainty in *On War*" in *Clausewitz and Modern Strategy*, Ed. Micheal Handel, p 100

condition' of Reason. It is therefore necessary for us to now take a closer look at precisely how Clausewitz deftly wove this limit-condition - 'the play of chance and probability within which the creative spirit is free to roam' – into his account of war.

Also, given that we will be investing a fair amount of space to address this particular element of Clausewitz's theory of war, it may help to clarify, at this stage, the immediate and tactical reasons as to why this investment in time and effort is being made.

1. First, having heard the din of battle himself, it would probably be safe to presume that Clausewitz had had a first-hand acquaintanceship with the vagaries posed by chance and uncertainty in war,²⁸⁸ which may have also led him to so emphatically state that war, unlike any 'other human activity is so continuously or universally bound up with chance'. This Clausewitzian observation is also borne out by the literature on the history of war and its conduct which, when discussing war in its theoretical/ philosophical and operational aspects, seems to accord an inordinately high level of emphasis on chance and uncertainty. Thus we find the pages of military history containing an overwhelming number of direct - and sometimes oblique - references to chance and uncertainty and how they impact war and its conduct. Indeed,

²⁸⁸ Let us not forget that Clausewitz was a Major-General in the Prussian Army and, as such, had fought against Napoleon. Thus, he would have experienced war, albeit generally as a staff officer. During the infamous retreat of Napoleon from the gates of Moscow, he witnessed at first-hand the terrible loss of life involved in the crossing of the River Berezina. His relationship with Scharnhorst, various staff-related assignments, and ultimately as the Director of the Staff College - during his stint at the War Office in Berlin - gave Clausewitz not simply a bird's eye view of the terrain of war, but also to relate to such a martial vista experientially. For an eyewitness account of the Battle of Borodino, see Carl von Clausewitz, *The Campaign Of 1812 in Russia*, (New York: De Capo Press, 1995)

these references not only appear in accounts of information/ net-centric warfare and even before that to mechanized warfare, but also in those that detail the regimented set-piece battles of the Enlightenment Era and earlier. At the meta-strategic level too, as the literature suggests, chance and uncertainty make their very potent presence felt.²⁸⁹ Further, the literature also points to how chance and uncertainty take on a very real - that is to say, thanatological - existence in the specific contexts of small/ micro combat units, and at the level of the individual soldier.²⁹⁰ This, in itself, warrants that we take a closer look at chance and uncertainty in the martial, particularly Clausewitzian, context.

2. Secondly, Clausewitz's attempt to address chance and uncertainty, being more flexible than that of his predecessors and counterparts, remains the theoretical model of choice when discussing the fog and friction of war today. As we will see – when we take up the case of network-centric warfare – the exercise of this choice in the context of war in the Information Age continues to approximate the Clausewitzian model and for good reason. For us, therefore, to appreciate how the strategy and logic of NCW is geared to combat and quell (this being the 'ideal' condition) the vagaries of chance and uncertainty, it is necessary to take a keener look at how and under what conditions the phenomena of chance and uncertainty – which Clausewitz discussed under the

²⁸⁹ See for example Edward Luttwak, *Strategy: The Logic of War and Peace*, (Cambridge, MA: Harvard Univ. Press, 1995); See also Thomas C. Schelling, *The Strategy of Conflict*, (Harvard: Harvard Univ. Press, 2007)

²⁹⁰ See, for example, the first-person accounts of the experience of war beginning with Ernst Junger, *Storm of Steel*, Trans. M. Hoffmann, (London: Penguin Books, 2004)

rubric of 'fog and *friktion*' – evolved and interrupted the rational calculations of military theorists of the time.

3. Thirdly, the tendency to control (and in the more extreme cases, overcome) chance and uncertainty in the martial context – as we have alluded to earlier – is nothing less than an attempt to accommodate chance and uncertainty within an architectonic of war, rather than having the architectonic being interrupted by them. It is only with Clausewitz – though military theorists before him had indeed considered chance and uncertainty and had noted the (more often than not) deleterious effects that they had not only in the conduct of war, but on their attempts to devise a comprehensive theory of war - that such a proactive stance towards these disruptive phenomena was taken. As mentioned above, Clausewitz presumed to identify opportunities that could be exploited in the context of chance - though, it must be restated, he did place the figure of the Genius as the identifier and exploiter of the opportunities that chance and uncertainty afforded. This marks the most critical maneuver effected by Clausewitz to sketch out his architectonic of war. Being, as this study contends, a pivotal theoretical effort by Clausewitz in his work, *On War*, a closer look at how this maneuver was effected and the ramifications that it has had is warranted.

But first it is necessary to direct our attention at the environment which provided the intellectual and philosophical context in which Clausewitz embarked on this project. Hacking informs us that...

...Throughout the Age of Reason, chance had been called the superstition of the vulgar. Chance, superstition, vulgarity, unreason were of one piece. The rational man, averting his eyes from such things, could cover chaos with a veil of inexorable laws. The world, it was said, might often look haphazard, but only because we do not know the inevitable workings of its inner springs.²⁹¹

Not only was the Age of Religion drawing to a close, but there was a rejuvenation in the intellectual spirit of those times wherein the world, that is to say nature, was being increasingly considered as being the playground of Man who, in turn, was nothing less than the embodiment of not simply practical reason, but also, pure reason. Our overview of Classical military theory bears this out. As we have seen, it certainly was not the case that the classical theorists of war did not recognize and/ or accept the presence of chance and uncertainty in war. They did.²⁹² The point to note, however, is the economy of relations that marked the relationship between these theorists and chance and uncertainty in the context of war. The premise of this relationship was marked by an increasingly widespread optimism that was common enough in the Age of Reason – particularly in its more deterministic modes. Essentially, this optimism was based on the notion that though ‘...[T]he world... might often look haphazard, but [this is] only because

²⁹¹ Ian Hacking, *The Taming of Chance*, (Cambridge, UK: Cambridge University Press, 2002), p 1.

²⁹² Gat, *A History of Military Thought*, p 187

we do not know the inevitable workings of its inner springs'.²⁹³ In other words, while recognizing the tactical messes that chance and uncertainty could and did create in war, strategically, the problem of chance and uncertainty - for the classical theorists - was not a major issue. For them, it was only a matter of time when even chance and uncertainty could be 'tamed'. It all depended on when and in what manner 'the inevitable workings of the inner springs of the world' stood revealed. At this point, one can almost imagine Heidegger nodding in approval for, when put in the above manner, it was nothing less than a movement, which Heidegger would, no doubt, point to as an example of an ontic (re)presentation of an ontological activity - an activity by which the world - nature - would stand unconcealed, and be brought-forth. In ontical terms, of course, Man effects this maneuver for it is He who will eventually command nature having understood her inevitable workings.

In the context of our brief overview of the classical theorists of war, this finds expression in the increasingly detailed models/ theories of war and its conduct that attempted to account for the phenomenon of war and of its conduct. It will be recollected that de Puysegur, displaying the *esprit geometrique*, proposed, in the form of a treatise on seigecraft and fortifications, a universal theory of war that would be scientific. Then Maizeroy, informed by the Pythagorean philosophy which held that numbers underlay all phenomena, focused on tactics - his attempt being to fashion a perfect system of tactics, by means of deploying what he termed 'the most sublime faculty of mind...reason'.

²⁹³ Hacking, *The Taming of Chance*, p 1

These theorists were then followed by, among others, Guibert, whom it is worth quoting again...

...Almost all sciences have certain or fixed elements, which succeeding ages have only extended and developed, but the tactics, till now wavering and uncertain, confined to time, arms, customs, all the physical and moral qualities of a people, have of course been obliged to vary without end and for a space of a century to leave behind nothing else than principles disavowed and unpracticed, which have ever been cancelled and destroyed by the following age.²⁹⁴

What Guibert wanted was nothing less than, again in his words, "... *those huge machines, which by quite uncomplicated means produce great effects...*"²⁹⁵ For Guibert, therefore, a bit ominously, the ideal martial condition would be one where life and all the myriad of moments that comprise it were deployed to sustain 'huge machines' - systems where "*there is not a single moment of life from which one cannot extract forces, providing one knows how to differentiate it and combine it with others.*"²⁹⁶

Lastly, the hope of military theorists such as Henry Lloyd and von Bulow was to find a set of "rational principles based on hard, quantifiable data that might reduce the conduct of war to a branch of the natural sciences ... from which the play of chance and uncertainty" could be entirely eliminated.²⁹⁷ Though we have not considered the contribution of Lloyd to the study of war in any great detail,

²⁹⁴ Quoted in Gat, *A History of Military Thought*, p 49.

²⁹⁵ Quoted in Foucault, *Discipline and Punish*, p 169.

²⁹⁶ Foucault, *Discipline and Punish*, p 165.

²⁹⁷ Howard, *Clausewitz*, p 13

we should note that he had gained some name and fame by critiquing Frederick II as a strategist based on his purported application of scientific principles to the historical events of the Seven Years' War (1756-1763). Thus, as Watts puts it...

[F]oreshadowing the mathematical approach that would later be pursued by the English automotive engineer Frederick W. Lanchester, Lloyd's enthusiasm for achieving certainty in war led him to argue that whoever understands the relevant military data stemming from things like topological and geographical measurements, march tables, supply needs, and the geometrical relationship of supply lines to fighting fronts (or of armies to their bases) would be "in a position to initiate military operations with mathematical precision and to keep on waging war without ever being under the necessity of striking a blow."²⁹⁸

Along with him, as we have seen, Von Bulow, in his 'Pure and Applied Strategy' (*Reine und angewandete Strategie*), took an even more quantitative position. In it he claimed that the success of a military operation depended largely on the angle formed by two lines running from the extreme ends of the base of operations to the objective. Thus, von Bulow opined, if the base of the operation was suitably placed and sufficiently extended for the two lines to converge on the target at an angle of 90 degrees or more, "victory was as certain as could reasonably be expected."²⁹⁹ In some respects, these instances of martial theorizations may be considered as the apogee of the ultra rationalistic theories of war. Soon, however, such rigid determinisms began to be tempered. Thus we find that beginning with Jomini and culminating with Clausewitz, military theories and theorizations on

²⁹⁸ Barry Watts, *Clausewitzian Friction and Future War*, McNair Paper Number 52, , October 1996. Available at <http://www.ndu.edu/inss/McNair/mcnair52/m52cont.html> Last accessed on May 19, 2007

²⁹⁹ Pareto, *Clausewitz and the State*, 92

war began to temper the prospects of a rigid rationalism, which was more often than not wrecked by the intrusions of chance and uncertainty. The formal accommodation of chance and uncertainty within the rubric of war had begun.

Additionally, Hacking, but also Foucault, shows us that during the time-frame within which the transformation in the conceptualization and understanding of war and military theories from the stage of a dogmatic over-rationalization to its being tempered by the gradual accommodation of chance and uncertainty took place, there was a huge intellectual and societal transformation that was also underway. Society was becoming statistical.³⁰⁰ It is in this context that, in part, the emergence of chance and uncertainty, rather, the problematization of chance and uncertainty, in the Clausewitzian context gains traction. Our immediate task on hand, therefore, will be to assess the impact of chance and uncertainty on Clausewitz's theoretical efforts and to follow the dexterous moves that he made to account for them within his architectonic of war. In the process, it will also aid us in preparing the grounds for the (re) examination of network-centric warfare that will follow.

³⁰⁰ Ian Hacking, *The Taming of Chance*, p 1; Foucault also makes the same point, particularly in his *Discipline and Punish* and in *Madness and Civilization – History of Insanity in the Age of Reason*, Trans. R. Howard, (London, UK: Routledge, 1990).

i. The Face of Chance

In the context of the military theories of the Enlightenment Age which, as we have seen, reached their apogee in the works of Guibert, Lloyd, von Bulow and others, the rationalistic order of things was marked by the tendency of these theorists to devise a system which would allow for the 'perfect' calculability of combat. This, more often than not, spilled over in to how war was understood and related to. The missing piece of the puzzle for these overly rationalistic philosophers of war was the case of the 'exception' to the rule, which was the interruption that upset all their rationally constructed plans.

What was missing was a 'law' or a 'principle' that would aid in addressing the 'exception' to the more general rules that comprised their 'art' of war. This 'exception' manifested itself in a myriad of ways. Thus, for example, it could take the form of 'natural' variables, such as the weather, geography, emotions, morale etc. Then there were other, more prosaic, variables that influenced the conduct of war. These included logistical dislocations, unforeseen bottlenecks in command and control, malfunction of equipment etc. Even the history that these theorists used for their theorizing purposes was strewn with examples and instances of such variables disturbing the tightly controlled plans of war. Not only did they upset the operational dimensions of war, they also forced themselves into the strategic and meta-strategic dimensions of war.³⁰¹ The consequence of this was an even

³⁰¹ It is worth pointing out that even Thucydides' celebrated account of the Melian Dialogue, which may be considered as an exemplary example of war-making at the meta strategic level - despite its cold rationalism

more rigid insistence on rules and principles that would make the conduct of war as friction-less as possible and the premise was that these variables could be accounted for. This is very much in evidence in, for example, Jomini's theoretical efforts. It did not mean, however, that Jomini was blind to the vagaries of chance and uncertainty. As we have seen, he held the view that...

...The fundamental principles upon which rest all good combinations of war have always existed...these principles are unchangeable; they are independent of the nature of the arms employed, of times and places...*Genius has a great deal to do with success, since it presides over the application of recognized rules, and seizes, as it were, all the subtle shades of which their application is susceptible.* But in any case, the man of genius does not act contrary to these rules.³⁰² (my emphasis)

Note how Jomini, while insisting on the point that the fundamental principle upon which all good combinations of war have always existed...are unchangeable and independent of the nature of the arms employed, of times and places, nevertheless accepted that there were 'subtle shades' where the application of these fundamental principles of war were left inadequate. These he dispatched with haste to the realm of the Genius.

(particularly from the Athenian perspective) – was also ridden with the element of chance. Of course there is a viable case to argue that the Melians would have felt its impact more severely than the Athenians given the outcome of the exchange as reported by Thucydides. A more recent example would be the Cuban Missile Crisis. Again, in terms of military hardware and their efficient use, the US and Soviet strategists knew with a large measure of accuracy of the outcomes of a clash of arms, particularly, nuclear weapons. These were and are commonly expressed in game-theoretic terms. However, at the level of Kennedy and Khrushchev, despite the plethora of scientific studies, analyses, and decision-aids at their disposal, the matter would have been riddled with very high degrees of chance and uncertainty.

³⁰² Quoted in Gat, *A History of Military Thought*, p 114.

Now, Barry Watts informs us that Clausewitz referred to the phenomena of chance and uncertainty under the umbrella of what he (Watts) refers to as the 'unified theory of Friction' (*Friktion*). He further points out that by the time Clausewitz delivered his summary lecture at the Berlin War College, in 1811, he had identified two distinct sources of what he termed "the friction of the whole machinery": "the numerous chance events, which touch everything" *and* "the numerous difficulties that inhibit accurate execution of the precise plans that theory tends to formulate."³⁰³ According to Watts...

the second source of friction... internal resistance to precise plans - recalls the type of frictional impediment that Clausewitz, in a letter to his wife in 1806, had first referred to. The first - the play of chance - represents a significant expansion of the original notion through the addition of a second major category or source of friction.³⁰⁴

This, however, leaves unsaid precisely how Clausewitz would have approached the problems posed by chance and uncertainty. Beyerchen, in this context, provides us with a lead. He suggests:

The connection between chance and uncertainty provides a means of understanding both, if we draw on the insights of the late nineteenth-century mathematician Henri Poincaré, whose understanding of the matter was powerful enough that he is a frequently cited source in nonlinear science today. Poincaré argued that chance comes in three guises: a statistically random phenomenon; the

³⁰³ Quoted in Paret, *Clausewitz and the State*, p 191; See also Watts, *Clausewitzian Friction and Future War*, 1996.

³⁰⁴ Barry Watts, *Clausewitzian Friction and Future War*, McNair Paper Number 52, , October 1996. Available at <http://www.ndu.edu/inss/McNair/mcnair52/m52cont.html> Last accessed on May 19, 2007

amplification of a microcause; or a coolfunction of our analytical blindness. He described the first as the familiar form of chance that can arise where permutations of small causes are extremely numerous or where the number of variables is quite large. This form of chance can be calculated by statistical methods. The very large number of interactions produces a disorganization sufficient to result in a symmetrical (i.e., Gaussian or bell curve) probability distribution. Nothing significant is left of the initial conditions, and the history of the system no longer matters. It is possible that Clausewitz was aware of this general line of reasoning. As with magnetism and friction, important developments in probability theory were occurring in Clausewitz's time, and we know that he read intensely in mathematical treatises.³⁰⁵

While we should note that Poincare's mathematical works came a few decades after Clausewitz, Beyerchen's point is well made. Additionally, as Hacking points out, the intellectual project of addressing the phenomena of chance and uncertainty was already evident in the works of Leibnitz, who "was a witness to...the emergence of probability around 1660 and just afterwards."³⁰⁶ This is lent further credence to if we note what Hacking has to say in this context:

[I]t is notable that the probability that emerged so suddenly (in the 1660s) is Janus-faced. On the one side, it is statistical, concerning itself with stochastic laws of chance processes. On the other side it is epistemological, dedicated to assessing reasonable degrees of belief in propositions quite devoid of statistical background.³⁰⁷

³⁰⁵ Alan Beyerchen, "Clausewitz, Nonlinearity and the Unpredictability of War," *International Security*, 17:3 (Winter, 1992), pp. 59-90.

³⁰⁶ Ian Hacking, *The Taming of Chance*, p 9. See also Hacking, *The Emergence of Probability*.

³⁰⁷ Ian Hacking, *The Emergence of Probability*, p 12.

Further, we should not forget that Poincare's summation of how the phenomena of chance and uncertainty could be analyzed and addressed was the culmination of a gradual process that preceded Clausewitz by almost two centuries. This, as we have seen, was nothing less than a signal of the erosion of determinism that had been the hallmark of the rationalistic order of things post the Age of Religion. Indeed, it could be said that Poincare's three guises of chance – statistically random phenomena, amplification of micro causes, and our (human) propensity for analytical blindness – had already been worked out in some detail by the time Clausewitz came to confront them in the context of his theorization of war. Thus, it is possible, indeed probable, that Clausewitz would have been familiar with the developments in this field. In the context of the evolution of military thought, this transformation, albeit perhaps not strictly in these terms, was already underway when Guibert, for instance, wrote his seminal *A General Theory of Tactics*. So, what was the nature of the chance and uncertainty that Clausewitz confronted?

Let us see how Clausewitz framed this problem. In *On War*, he wrote:

War is the realm of uncertainty; three quarters of the factors on which action in war is based are wrapped in a fog of greater or lesser uncertainty. A sensitive and discriminating judgment is called for; a skilled intelligence to scent out the truth...War is the realm of chance. No other human activity gives it greater scope: no other has such incessant and varied dealings with this intruder. Chance makes everything more uncertain and interferes with the whole course of events.³⁰⁸

³⁰⁸ Clausewitz, *On War*, p 101

In this remarkable passage, for which he is justifiably praised, Clausewitz demonstrates his acute appreciation of not simply the criticality of chance and uncertainty in war - it also suggests his proposed tack for dealing with these disruptive phenomena. But what precisely did Clausewitz mean when he referred to the 'fog of greater or lesser uncertainty'?

Consider the following:

...the general unreliability of information presents a special problem in war: all action takes place, so to speak, in a kind of twilight, which, like fog or moonlight, often tends to make things seem grotesque and larger than they really are... Whatever is hidden from full view in this feeble light has to be guessed at by talent, or simply left to chance. So once again for lack of objective knowledge one has to trust to talent or to luck.³⁰⁹

This passage suggests that Clausewitz attributes information – rather, the lack of it - to the 'fog of greater or lesser uncertainty' and to 'chance which, particularly in the context of war, makes everything more uncertain and which interferes with the whole course of events'. Now, it is tempting to suggest that this lack of information – rather, in Clausewitz's words, 'the paucity of information' – is a function of statistically random phenomena *and* of amplified micro causes which the common man is unable to identify.³¹⁰ Indeed, this is how most commentators

³⁰⁹ Clausewitz, *On War*, p 140

³¹⁰ Note that Beyerchen makes a distinction between these two elements – statistically random phenomena and micro causes. His argument, while elegant, remains suspect. It is interesting to note that Beyerchen does not allow for the amplification of micro causes to contribute to what under the laws of probability would be regarded as statistically random phenomena. See Alan Beyerchen, "Clausewitz, Nonlinearity and the Unpredictability of War," *International Security*, 17:3 (Winter, 1992), pp. 59-90

approach this element in Clausewitz's theory of war, which also dovetails quite neatly into the three guises of Chance that Poincare identifies. But Clausewitz also hinted – but only hinted - at something else – something in excess of statistically random phenomena and amplified micro causes – that posed a seemingly insurmountable problem not simply in the context of the conduct of war, but also while positing a 'theory of war'. Thus, for example, Clausewitz noted,

...The difficulties accumulate and end by producing a kind of friction that is inconceivable unless one has experienced war...Countless minor incidents - the kind you can never really foresee - combine to lower the general level of performance, so that one always falls short of the intended goal....The military machine - the army and everything related to it - is basically very simple and therefore seems easy to manage. But we should bear in mind that none of its components is of one piece: each part is composed of individuals...the least important of whom may chance to delay things or somehow make them go wrong...This tremendous friction, which cannot, as in mechanics, be reduced to a few points, is everywhere in contact with chance, and brings about effects that cannot be measured, just because they are largely due to chance.³¹¹

At first glance, it would appear that what Clausewitz is reiterating the very Kantian distinction between the *a priori* and experience by insisting that unless one has *experienced* war, one is unable to appreciate the 'countless minor incidents' that degrade the performance of – note Clausewitz's words at this point - 'the military machine', which he identifies as 'the army and everything related to it.' He also notes, among other things, the lacking of mechanics – his passing

³¹¹ Clausewitz, *On War*, 119-120

reference to Newtonian science – to account for the ‘tremendous friction’ that the components of the military machine undergo, but also exhibit. To this we must also add his observation that not only is friction caused by the components and the sub-components of the components of the military machine as they interact with themselves as a ‘whole’, but their collective and individual contact with external conditions ‘brings about effects that cannot be measured, just because they are largely due to chance’. Based on this, we would not be incorrect to conclude that Clausewitz’s notion of chance and uncertainty was a condition marked by internal friction, which is generated as the military machine performs its tasks, and external friction that occurs as the military machine comes in contact with its environment, that is to say, its operational environment. As we will see, Clausewitz did indeed design his methodology for dealing – in operational terms - with chance and uncertainty by working from precisely such a premise. But the picture that Clausewitz builds up in this powerful passage is even more intriguing than simply these observations for if the matter were to be simply left standing at this point, it would remain a rather simplistic understanding and rendition of what is not simply a military problem but first a more fundamental and philosophical problem.

Consider, for example, the following: “[T]he deduction of effect from cause is often blocked by some insuperable extrinsic obstacle: the true causes may be quite unknown. Nowhere in life is this so common as in war, where the facts

are seldom fully known and the underlying motives even less so.”³¹² Recall here our discussion on the pure concept of war. What Clausewitz draws our attention to here is nothing less than his rather sophisticated understanding of chance and uncertainty. He notes, incisively, that cause-effect relationships decompose into meaninglessness at one point of time or the other. Note that he is not making this assertion simply in the context of the military. He specifically refers to this process of decomposition to be occurring in ‘life’ as such. Further, he identifies the catalyst that aids and abets this decomposing as something that is seemingly insuperable, but obviously extrinsic to the cause-effect relationship – the origin of which remains unknown. This state of affairs Clausewitz identifies as being present in life, but which – according to him – is discernable at a much finer resolution within the context of war and combat. In net effect, therefore, Clausewitz is not making a case for a simplistic relativism – in life and war. We find that he is pointing to a condition marked by a peculiar kind of chance and uncertainty, which is in excess of the chance and uncertainty that results from the internal and external frictions of a war-machine. This not only appears from nowhere but, according to Clausewitz, it always already exists. Indeed, Clausewitz also seems to be saying that it is in such turbulent and chaotic conditions that life and war unfold. We need to be careful here. Note that the chance and uncertainty that Clausewitz designates as insuperable, extrinsic and unknown is quite different in nature from the sense of chance and uncertainty that is more commonly associated with the fog and friction that is endemic to the operational conditions of the Clausewitzian war-machine. It is, of course, true that

³¹² Clausewitz, *On War*, p 156

when the war-machine is operational, situations and circumstances are encountered that are either the effects of friction, or are clouded in a fog of chance and uncertainty. It may also be the case that in some, indeed in most, instances the cause-effect relationship that can explain these instances of friction and of chance and uncertainty appear to be inscrutable to most; however, there is a qualitative difference between these instances and the state of affairs that Clausewitz associates with the intrinsic instability in life and war. As we will see, in the case of chance and uncertainty which the fog and friction of war are signature of, the possibility of making a casual connection between seemingly unrelated events remains, at least as a potentiality, in the hands of the Genius. On the subject of the chance and uncertainty that rents life and war, however, Clausewitz remains silent – though he conveys much with his silence to the point of compelling us to pay even more careful attention to how he maneuvers around the issue.

Now, if we were to cast our reading of the just quoted passage from Clausewitz into Deleuzian terms, it could be said that when Clausewitz encounters chance and uncertainty in the wider expanse of ‘life and war’, he is encountering nothing less than an instance of immanence where “there are always many infinite movements caught within each other, each folded in the others, so that the return of one instantaneously relaunches another in such a way that the plane of immanence is ceaselessly being woven...”³¹³ Following through in the Deleuzian vein, it could be said that aside from the chance and uncertainty that

³¹³ Deleuze & Guattari, *What is Philosophy?* Trans. Tomlinson & Burchell, (New York: Columbia Univ. Press, 1994), p 38

Clausewitz identified as being disruptive in the operational sense, the face of chance and uncertainty that Clausewitz remained silent about was the one that would have also appeared to him like a “section of chaos...characterized less by the absence of determinations than by the infinite speed with which they (the determinations) take shape and vanish.”³¹⁴

At this point it is expected that skeptical readers would begin to resist this co-relation that is being drawn between the phenomenon of chance (and uncertainty) as encountered by Clausewitz and the Deleuzian notion of the plane of immanence. They would, however, be cautioned to revisit Clausewitz’s problem again. As mentioned above, Clausewitz was perceptive enough to note that there was an ‘insuperable extrinsic obstacle in deducing effect from cause’. What this suggests is that Clausewitz - who had personally experienced war - remained cognizant of the problems associated with causality, or more accurately, with the lack of it, on the field of battle in particular and on questions regarding life and war in general. Crucially, Clausewitz, who had personally seen the ‘face of battle’ and who was, it is fair to say, familiar with the ‘tempo of operations’ would have also been able to appreciate that even if specific determinations - that is to say, concrete information - were available, the tempo of operations would necessarily render such determinations mobile thereby making them progressively indeterminate. Clausewitz’s recognition of chance and uncertainty’s originary contingent nature, which remained in excess of the exertions of an algebra that purported to contend with the fog and friction associated with war (and of life),

³¹⁴ D&G, *What is Philosophy?* p 42.

would thus have come about in this way. Clausewitz, in this way, albeit in his own terms, would thus have confronted the problem of chance and uncertainty in terms of what Deleuze refers to as the 'infinite speed with which determinations take shape and vanish'.

Now consider what Deleuze and Guattari have to say about the infinite speed that characterizes the chaos of the plane of immanence. They suggest...

This [the movement associated with infinite speed] is not a movement from one determination to the other but, on the contrary, the impossibility of a connection between them, since one does not appear without the other having already disappeared, and one appears as disappearance when the other disappears as outline.³¹⁵

Given this, it is not surprising that Clausewitz would, perhaps a trifle plaintively, write: Chance makes everything more uncertain and interferes with the whole course of events. Again, it is important for us to note that when Clausewitz writes about chance making everything more uncertain, he is not simply referring to the friction that the military machine - including its components and sub-components - experiences in itself and in its contact with the operational environment, he is also including the 'exterior problem' within the ambit of chance. Note that this notion of chance and uncertainty, as we have seen above, in some measure always-already reflects an excessive-ness. In this form, this study contends, chance and uncertainty intrude and reside as unwelcome guests within any

³¹⁵ Ibid. p 42

coherent ensemble – theoretical and otherwise. In this sense, therefore, the ‘fact of chance’ that Clausewitz would have been a witness to - in ordinary terms - veers very close to the immanent nature of the ‘chaos’ that marks the Deleuzian ‘plane of immanence’. In fact, when Deleuze and Guattari suggest that, “[C]haos makes chaotic and undoes every consistency in the infinite...[it]...is not an inert or stationary state,”³¹⁶ Clausewitz, particularly in the context of chance and uncertainty in war, would have agreed for the undoing of the consistency of information – regardless of whether it emanated from within the ‘military machine’ or from the contact of the military machine with its operational environment – would have been a phenomenon that Clausewitz would have readily recognized and appreciated. Thus, in the famous chapter on *Friction in War*, Clausewitz noted, “Once war has actually been seen the difficulties become clear...Friction...is the force that makes the apparently easy so difficult.”³¹⁷ In this way, for Clausewitz, the more critical intellectual problem, even before the operational problem made its appearance, would have been – How to think when the condition of thought – that is to say, the condition in which thought was possible - is embedded in a condition of chaos? This, in essence, was the problem of chance and uncertainty that Clausewitz faced.

³¹⁶ Ibid. p 42

³¹⁷ Clausewitz, *On War*, p 119, 121

ii. Strategizing Chance

It will be evident by now that the phenomena of chance and uncertainty confronted by Clausewitz was not something that could be explained away as being merely 'accidental', 'random', and as a matter of analytical blindness. Rather, it was a fundamental philosophical problem that threatened to disrupt, indeed make incoherent, his strategic intent to forge a comprehensive theory of war. Clausewitz, faced with this problem, resorted to a number of strategic and tactical maneuvers that cannot help but invite our admiration.

We have already noted that the specific nature of the problem of chance and uncertainty for Clausewitz was less a question of the lack of information; rather, it was a question of speed, that is to say, of time. In other words, for Clausewitz, the critical element was that given the tempo of operations and the infinite variations, permutations and combinations that war-as-such entailed, the possibility of developing, maintaining and operating on the basis of a consistent set of information was not simply difficult but impossible. Seen from Clausewitz's point of view the problem would have seemed understandably intractable. But it is also interesting to note that despite Clausewitz's overt acknowledgement of the radical indeterminacy that the phenomena of chance and uncertainty presented – in operational and theoretical terms – a 'desire' for

consistency and determinacy remained and this involved nothing less than a consideration of 'life (particularly 'martial life') as the conquest of mobility'.³¹⁸

It could be argued that this was in no way different from what Clausewitz's predecessors – particularly Lloyd, von Bulow and Jomini – were attempting to achieve by means of their theories of war. This point of view though, at first glance seemingly true, underestimates the subtle but radical transformations that were operative in the Clausewitzian theory of war. Thus, for example, unlike the martial theories of his predecessors, Clausewitz's theory - by allowing for the active play of chance and uncertainty in the context of war - refused to straightjacket the phenomenon of war. The result was that unlike the works of his predecessors, Clausewitz's theory of war remained flexible enough not to be disrupted by the twin phenomena of chance and uncertainty. Thus, while his predecessors' theories found themselves being repeatedly interrupted and dislocated by chance and uncertainty, Clausewitz's deft maneuver to in-corporate these two phenomena as intrinsic constituents of his theory - thereby making the transition from one designing an architecture of war to one purporting to unconceal the architectonic of war - made sure that his theory would (a) "not be forgotten after two or three years, and that possibly might be picked up more than once by those who are interested in the subject"³¹⁹, and (b) "bring about a revolution in the theory of war."³²⁰ It is worth noting that on both these counts

³¹⁸ Bernard Steigler, *Technics and Time I*, p 17.

³¹⁹ Clausewitz, *On War*, p 58 & 63

³²⁰ Clausewitz, *On War*, p 70

Clausewitz was largely successful.³²¹ Indeed, it could be argued that not only did Clausewitz's theoretical exertions bring about a revolution in the theory of war, they also single-handedly created a viable paradigm within which the theory of war could be made intelligible. This, as we have seen, Clausewitz did by devising a theory of war that took into account not simply the presence of chance and uncertainty, but that was also informed by (at least an implicit) understanding of chance and uncertainty - unlike his predecessors - as an instance of pure immanence.³²²

Clausewitz's theory of war also casts an interesting light on the massive but subtle transformations that were simultaneously underway in the 'social' at that time. Our interest in this is not simply driven by the fact that such transformations were evident in Clausewitz's work - it is also motivated by the fact that these transformations also provided the fundamental grounds on which

³²¹ Note: An exception to this would be the use of Jomini's *Art of War* as part of the training curriculum of the US Army. Thus, for example, Maj. Ebner (US Army, Combat Studies Institute) writes: "The U.S. Army presents itself as a Clausewitzian organization. Officers in the Army fondly quote the Prussian theorist and, at the strategic level, his dictums dominate; political control of the military, war as an extension of policy, his trinity, etc. Consideration of Clausewitz's friction and fog of war has translated into the doctrine of *auftragstaktik* and maintenance of initiative at the lowest possible levels of command. At the tactical and operational levels, however, the U.S. Army remains more firmly rooted in the ideals of Antoine-Henri Jomini. Jomini's scientific approach to understanding and succeeding at war lies at the heart of Army doctrinal operations. The American Army, in its collective description of war and its methods of planning operations in war, follows more closely the Swiss theorist than the Prussian. The U.S. Army, particularly at the tactical and operational levels, espouses the collective genius of good staff work and the military decision-making process (MDMP) rather than the singular genius of military command embraced by Clausewitz. This reliance upon military science and method over the application of genius firmly defines the U.S. Army, tactically and operationally, as a Jominian institution." See Maj. Gregory Ebner, "Scientific Optimism: Jomini and the US Army", The US Army Professional Writing Collection. Available at http://www.army.mil/professionalwriting/volumes/volume2/july_2004/7_04_2_pf.html. Also available at <http://www-cgsc.army.mil/csi/research/writing/Papers%20c600/Commendebner2.asp> Last accessed on Jan., 2008

³²² It must again be reiterated that Clausewitz, at least in *On War*, did not make any direct or specific mention about the immanence of chance and uncertainty. However, as we have seen, there are a number of indications in his text that he may have had intuited this.

Clausewitz proposed the role and function of the Genius in war. As we have already seen, one central feature of these transformations was the fact that society was becoming statistical. As Hacking informs us,

[E]very state, happy or unhappy, was statistical in its own way. The Italian cities, inventors of the modern conception of the state, made elaborate statistical inquiries and reports well before anyone else in Europe. Sweden organized pastors to accumulate the world's best data on births and deaths. France, nation of physiocrats and probabilists, created bureaucracy during the Napoleonic era which at the top was dedicated to innovative statistical investigations....the English inaugurated 'political arithmetic' in 1662 when John Gaunt drew demographic inferences from the century old weekly Bills of Mortality for the City of London.³²³

As a consequence, "[A] new type of law came into being, analogous to the laws of nature, but pertaining to people...They carried with them the connotations of normalcy and of deviations from the norm."³²⁴ But to what end?

Foucault shows us that this type of 'law' emerges at the...

...crossroads of two processes: one that, shattering the structures of feudalism, leads to the establishment of the great territorial, administrative, and colonial states; and a totally different movement that, with the Reformation and Counter-Reformation, raises the issues of how one must be spiritually ruled and led on this earth in order to achieve eternal salvation.³²⁵

³²³ Ian Hacking, *The Taming of Chance*, p 16

³²⁴ *Ibid.* p 1.

³²⁵ Michel Foucault, "Governmentality" in *Essential Works of Foucault 1954-1984*, Vol., 3, Ed. James D. Faubion, (London: Penguin Books, 2002), p 202

Thus we find questions like “[H]ow to govern oneself, how to be governed, how to govern others...in their multiplicity and intensity”³²⁶ surfacing. As we have seen earlier, the emergence of a statistics of society or, more precisely, beginning to understand society statistically, was a transformation that had been underway for a while. By way of an example, Hacking points to Leibniz as being one of the key participants who played a role in the emergence of probability and the mathematics that underwrote it. Indeed, Leibniz, going by Hacking’s assertion, may also be considered to be the philosophical godfather of Prussian official statistics. Leibniz’s premise, in this context, was nothing less than the following: If a Prussian state was to be brought into existence (and he was all for it), the critical raw material for such a state was the population. This, according to Leibniz was ‘the true measure of power of a state’.³²⁷ And how was this measure of population, which Leibniz recognized as being the measure of a State’s power, to be ascertained? In response,

[H]e formulated this idea of a central statistical office...serving the different branches of administration: military, civil, mining, forestry and police. It would maintain a central register of deaths, baptisms and marriages. With that one could estimate the population, and hence measure the power of the state.³²⁸

In Foucault’s terms, this is nothing less than a signature of the emergence of the art of government. As Foucault puts it, “[T]he state as the set of institutions of sovereignty has existed for millennia. The techniques of the government of men

³²⁶ Ibid.

³²⁷ Ian Hacking, *The Taming of Chance*, p 18

³²⁸ Ibid. p 18

also existed for millennia. But it is on the basis of a new general technology [of] the government of men that the state took the form that we know.”³²⁹ Leibniz’s ‘central statistical office’ may thus be considered as an early candidate of precisely such a technology – indeed of a strategic technical ensemble - designed specifically with the aim of developing and deploying this ‘new general technology [of] the government of men.’ Further, as Foucault shows us in his studies spanning the diverse fields of psychiatry, medicine, criminology and others, “the development of demography, of urban structures, of the problem of industrial labour – based on the core raw material of statistics of populations - had raised in biological and medical terms the question of human “populations” ...The social “body” ceased to be a simple juridico-political metaphor (like the one in the Leviathan) and became, instead, a biological reality...”³³⁰ Considered in this light, it could be said that Leibniz’s ‘central statistical office’ was effecting nothing less than a transformation of force (power in Foucault’s terms) – for, as Foucault shows us, what such strategic statistical ensembles actually did was to transform ‘power’ from being merely an exclusive, separative, restrictive, repressive and deductive tool, into an element that was productive, creative and empowering.³³¹ As an aside, note that the parallels between Leibniz’s ‘central statistical office’ and the Office of Force Transformation are somewhat startling! Leibniz’s ‘central statistical office’, it could be said, was a remarkably prescient

³²⁹ Michel Foucault, *Security, Territory, Population – Lectures at the College De France 1977-78*, Ed. By Michel Senellart, Trans. By Graham Burchell, (London, UK: Palgrave Macmillan, 2007), p 120 See footnote marked ‘†’

³³⁰ Michel Foucault, “About the Concept of the “Dangerous Individual” in *Essential Works of Foucault 1954-1984*, Vol., 3, Ed. James D. Faubion, (London, UK: Penguin Books, 2002), p 186

³³¹ Michel Foucault, *Abnormal*, Trans. Graham Burchell, Intro. Arnold I. Davidson, Foreword, Ewald et al, (New York, NY: Picador, 2003), p48

precursor to the Pentagon's Office of Force Transformation. *In both instances, the objective of the respective organizations being not simply to collect, collate and analyse data, but also to create data by a progressively detailed and highly technical diagramming of Nature.* In passing, it should also be noted that though we do invoke Leibniz as the philosophical father of Prussian official statistics and Clausewitz who was a Prussian by birth...

[T]he Prussia that overthrew Napoleon created a conception of a society that resolutely resisted statistical generalization. It gathered precise statistics to guide policy and inform opinion, but any regularities they might display fell short of laws of society. The Prussians created a powerful bureau but failed to achieve the idea of a statistical law. That was left for the France that survived Napoleon.³³²

For our purposes, of course, the crucial question remains - what was the organizing principle of this state that based itself on these new techniques of governing men? It was the principle of the 'norm'. It is critical to note that this principle organized itself around nothing less than the laws of chance which, by means of a mathematical understanding of probability, contributed in no small measure to the erosion of 'determinism'. Though the intensity with which these 'norms' organized themselves around the laws of chance varied from place and time – as the example of Prussia and France suggests - Hacking tells us that “[T]o believe there were such laws one needed law-like statistical regularities in large

³³² Ian Hacking, *The Taming of Chance*, p 35

populations. How else could a civilization hooked on universal causality get the idea of some alternative kind of law of nature or social behavior?”³³³

Responding to the question regarding the ‘norm’, Foucault’s analysis is worth noting in some detail. Foucault observed that...

...What makes the totality of the Classical episteme possible is primarily the relation to a knowledge or order. When dealing with the ordering of simple natures, one has recourse to a *mathesis*, of which the universal method is algebra. When dealing with ordering of complex natures (representations in general, as they are given in experience), one has to constitute a *taxinomia*, and to do that one has to establish a system of signs...[A]t the two extremes of the Classical episteme, we have a *mathesis* as the science of calculable order and a *genesis* as the analysis of the constitution of orders on the basis of empirical series...Hedged in by calculus and *genesis*, we have the area of the table...*Taxinomia* is not in opposition to *mathesis*...for it too is a science of order – a qualitative *mathesis*...Confronted by *genesis*, it functions as a semiology confronted by history. It defines, the general law of beings, and at the same time the conditions under which it is possible to know them.³³⁴

Foucault further argued that...

...the theory of signs in the Classical period was able to support simultaneously both a science with a dogmatic approach, which purported to be a knowledge of

³³³ Ibid., p 3

³³⁴ Michel Foucault, *The Order of things*, pp. 80-83 For an implicit critique of this Foucauldian position and its related methodology see George Steiner’s review of ‘The Order of Things’. George Steiner, “The Mandarin of the Hour-Michel Foucault”, Feb 28, 1971, Copyright 1998 *The New York Times Company*. Available at <http://cogweb.ucla.edu/Abstracts/Foucault.html>. Last accessed on Jan 2008.

nature itself, and a philosophy of representation, which, in the course of time, became more and more nominalistic and more and more skeptical.³³⁵

This, according to Foucault, is also the reason as to why this episteme disappeared by the end of the 18th century. In Foucault's words,

...after the Kantian critique [and] all that occurred in Western culture...a new type of division was established: on the one hand mathesis was regrouped so as to constitute an apophantics and an ontology...on the other hand, history and semiology united to form those interpretive disciplines whose power has extended from Schleiermacher to Nietzsche and Freud.³³⁶

Nevertheless, the identification (and later codification) of the 'norm' that began from within the massive statistical tables of what Foucault refers to as the Classical period was a project that continued into the age of 'interpretive disciplines', that is to say into the 19th century and beyond, albeit at a curve. Thus, as Foucault brilliantly demonstrates...

What we have then is a system that is...exactly opposite of the one we have seen with the disciplines. In the disciplines one started from a norm, and it was in relation to the training carried out with reference to the norm that the normal could be distinguished from the abnormal. Here [that is to say in the post Classical period, for Foucault], instead, we have a plotting of the normal and the abnormal, of different curves of normality, and the operation of normalization consists in establishing an interplay between these different distributions of

³³⁵ Foucault, *The Order of Things*, p 82.

³³⁶ Foucault, *The Order of Things*, p 82

normality and [in] acting to bring the most unfavourable in line with the more favourable.³³⁷

In effect, therefore, the ‘norm’ was not simply an acceptable parameter of behavior and/ or bearing; it was also the average, that is to say, the normal and most probable behavior of things, including individuals.

Despite Foucault’s cautionary note that though the grid of kinship formed by *mathesis*, *taxinomia* and *genesis* in the 17th and 18th centuries defined the general configuration of knowledge, and despite the fact that after Kant’s ‘copernican revolution’ a regrouping of this grid occurred, it cannot be denied that the foundational structures on which such knowledge, that is to say, the tabula, was grounded remained essentially in place. This was as true for Foucault’s Classical period as it was for the times that succeeded it. Why? As Foucault showed us, a tabula...or even simply, tabula “enables thought to operate upon the entities of our world, to put them in order, to divide them into classes, to group them according to names that designate their similarities and their differences.”³³⁸

In this form, the tabula is thus a...

...‘system of elements’ – a definition of the segments by which the resemblances and differences can be shown...which is given in things as their inner law, the hidden network that determines the way they confront one another, and also that

³³⁷ Foucault, *Security, Territory, Population*, p 63

³³⁸ Foucault, *The Order of Things*, p xix

which has no existence except in the grid created by a glance, an examination, a language...³³⁹

Thus, the *tabula* formed a grid of intelligibility – in Foucault’s terms, ‘an ordering of things’ – which while itself undergoing a transformation in character in the manner described by Foucault, nevertheless retained the notion of a ‘grid’. But this *tabula* also brought in its wake “the suspicion...of a worse kind of disorder than that of the *incongruous*, the linking together of things that are inappropriate.”³⁴⁰ It is important to note that this ‘disorder’ was not necessarily chaotic, rather it was a state where ‘things are ‘laid’, ‘placed’, ‘arranged’ in sites so different from one another that it is impossible to find a residence for them, to define a *common locus* beneath them all.”³⁴¹ (emphasis in original) Thus, in Foucault’s colourful words, “this...space in which things are normally arranged and given names...(also seem to resist being arranged)...into any coherent pattern (a grid); as though that simple rectangle were unable to serve...as a homogeneous and neutral space in which things could be placed so as to display at the same time the continuous order of their identities and differences...”³⁴² Paradoxically, therefore, instead of exhibiting the stability of structures and categories, that is to say, exhibiting an intrinsic coherence and order, the *tabula* is also a site of transient, temporary and dispersing multiplicities of groupings – an ‘agglutination of diverse similarities’ - in a constant state of (re)organization and disturbance that seem to forever reel on the brink of a vertiginous anxiety. But Foucault also

³³⁹ Ibid., p xxi

³⁴⁰ Foucault, *The Order of Things*, p xix

³⁴¹ Ibid.

³⁴² Ibid., pp xix-xx

teaches us to recognize this vertigo as that induced by the complex as opposed to the vertigo of chaos for, as he suggests, “it is only in the blank spaces of this grid that order manifests itself in depth as though already there.”³⁴³ Thus, even there where, in Clausewitz’s words, ‘logic comes to a stop’, Foucault suggests that “there exists, below the level of...spontaneous orders, things that are themselves capable of being ordered, that belong to a certain unspoken order; the fact, in short, that order *exists*.”³⁴⁴ (emphasis in original).

Now, our survey of military theorists of the Enlightenment Era (which roughly corresponds to what Foucault refers to as the Classical period) shows us that the dogmatically ultra-rationalistic martial theories of Puyseguyer, Lloyd, von Bulow, Guibert, and even that of Jomini remained fixated by and with this grid of intelligibility. In this way, they remained partial to the *mathesis, taxinomia, genesis* series. As we have seen, it was also the case that while each of these theorists had encountered chance and uncertainty – the dark side, in a manner of speaking, of the tabula – they, in keeping with the spirit of their times, relied on the ordering principle of the *mathesis, taxinomia and generis* series which, they optimistically held, would quell the disruptions that created a turbulent space between their theoretical efforts and actual events – a point which Clausewitz made much of. If we take Foucault’s argument seriously, then it would appear that what the military theorists of the Enlightenment Age had done was to establish a norm from which they drew their inferences and conclusions. This

³⁴³ Ibid., p xix

³⁴⁴ Ibid., p xxii

norm would have been established to develop and maintain the *mathesis, taxinomia, genesis* series. What, however, these theorists were unable to leverage - to the extent Clausewitz did - was this hidden order of things, which lay within the interstices of the things that populated the tabula. These were the gaps wherein (absolute) reason came to a standstill and, as such, were the differential-spaces between 'theoretical truths (the grid of intelligibility) and the multifarious unaccountable and inexplicable instances within actual events (the gaps in this grid of intelligibility)'. Clausewitz, on the other hand, did not fail to recognize that both theoretical truths and actual events were underwritten by order, that is to say Reason, or 'a reason', which on the one hand was obviously apparent, indeed explicit (as in the case of theoretical truths); while on the other (in the case of actual events), it was hidden, though always already there. In this way, Clausewitz effected a dual maneuver.

The first maneuver Clausewitz effected was to make a distinction within the phenomena of chance and uncertainty. At the most superficial level, the problems associated with chance and uncertainty lie within the matrix that a viable theory of war would lay out. At a second level, he identified chance and uncertainty – manifested as complexity – residing in the interstices of the classifications and groupings that constitutes the *mathesis, taxinomia, genesis* series which, as we have seen, Foucault suggests has constituted the grid of intelligibility in various mutations since what he refers to as the Classical Age. However, here like Foucault, Clausewitz also discovers the existence of order,

though this existence is generally ignored by the analytical blindness of humans (with some significant exceptions), which lends to the appearance of chance and uncertainty. Having conducted his own version of the *mathesis, taxinomia, genesis* series on chance and uncertainty in the above manner, Clausewitz then - by introducing the figure of the genius - made the case for the application of 'sufficient reason' to bridge the gap between theoretical truths and actual events where the play of chance and uncertainty takes place.³⁴⁵

Pursuant to this, Clausewitz noted that "[T]he influence of theoretical truths on practical life is always exerted more through critical analysis than through doctrine."³⁴⁶ For a theorist who was scathing in his attacks on the rigid theoretical 'truths' of his predecessors, this turn to 'critical analysis' was most curious, though understandable. Indeed, Clausewitz went to some lengths to discuss the importance of 'critical analysis' while engaging in the formulation of a theory of war. As Gat informs us, Clausewitz began from the premise that "[T]heory was by no means divorced from praxis; on the contrary, it had to be

³⁴⁵ The Principle of Sufficient Reason has been generally attributed to Leibniz. It consists of the following propositions: For every entity x, if x exists, then there is a sufficient explanation why x exists; For every event e, if e occurs, then there is a sufficient explanation why e occurs; For every proposition p, if p is true, then there is a sufficient explanation why p is true. It is interesting to note that while the Principle of Sufficient Reason may seem to be fatalistic, Leibniz did make provision for 'contingency' by stating, "We have said that the concept of an individual substance [Leibniz also uses the term haecceity] includes once for all everything which can ever happen to it and that in considering this concept one will be able to see everything which can truly be said concerning the individual, just as we are able to see in the nature of a circle all the properties which can be derived from it. But does it not seem that in this way the difference between contingent and necessary truths will be destroyed, that there will be no place for human liberty, and that an absolute fatality will rule as well over all our actions as over all the rest of the events of the world? To this I reply that a distinction must be made between that which is certain and that which is necessary." Leibniz, *Discourse on Metaphysics*, Trans. Dr. George R. Montgomery (Open Court Publishing Company, 1902), #13, Available at <http://www.class.uidaho.edu/mickelsen/texts/Leibniz%20-%20Discourse%20on%20Metaphysics.htm#>. Last accessed on Jan 2008.

³⁴⁶ Clausewitz, *On War*, p 156

translated into praxis.”³⁴⁷ For Clausewitz, ‘critical analysis’ was the tool by which such a gap could be bridged. Yet, such a faculty for ‘critical analysis’ could not take place in a vacuum, thus it is not surprising that Clausewitz was led to suggest that “...a working theory is an essential basis for criticism. Without such a theory it is generally impossible for criticism to reach the point at which it becomes truly instructive – when its arguments are convincing and cannot be refuted.”³⁴⁸ Thus Clausewitz noted:

...it would be wishful thinking to imagine that any theory could cover every abstract truth, so that all the critic had to do would be to classify the case studied under the appropriate heading. Equally, it would be ridiculous to expect criticism to reverse course whenever it came up against the limits of a sacrosanct theory. The same spirit of analytical investigation which creates a theory should also guide the work of the critic...The function of criticism would be missed entirely if criticism were to degenerate into a mechanical application of theory. All the positive results of theoretical investigation – all the principles, rules, and methods – will increasingly lack universality and absolute truth the closer they come to being positive doctrine. They are there to be used when needed, and their suitability in any given case must always be a matter of judgment. The critic should never use the results of theory as laws and standards, but only – as the soldier does – *as aids to judgment*.³⁴⁹ (emphasis in original)

Naturally, the question arises - who is qualified to make judgments when ‘all positive results of theoretical investigations increasingly begin to lack universality’ and to render a translation between theory and praxis? And, what is the nature of judgment that is being made? At this point, it is necessary to pay

³⁴⁷ Gat, *A History of Military Thought*, p 213

³⁴⁸ Clausewitz, *On War*, p 157

³⁴⁹ Clausewitz, *On War*, pp 157-158

heed to Clausewitz's cogent reminder about the limits of theory. In *On War*, he wrote:

[G]iven the nature of the subject...it is simply not possible to construct a model for the art of war that can serve as a scaffolding on which the commander can rely for support at any time. Whenever he has to fall back on his innate talent, he will find himself outside the model and in conflict with it; no matter how versatile the code, the situation will always lead to the consequences we have alluded to: talent and genius operate outside the rules, and theory conflicts with practice.³⁵⁰

This conflict between theory and practice, which leads 'talent and genius' to operate outside the rules, was nothing but a tacit recognition of the problems that chance and uncertainty posed not simply in the operational art of war, but in the theorization of war itself. It also made clear the precise role that 'talent and genius' played in such circumstances. Thus, Clausewitz's positioning of 'talent and genius' assumes a significance that we will be ill-advised to ignore – though this assessment comes with a caveat. It is essential to clarify the significance of the last line in the above-quoted section from Clausewitz for it has the potential to be misunderstood. We should pay particular attention to the fact that Clausewitz here is being highly critical of the theoretical positions held by his predecessors and is not endorsing the point of view that 'talent and genius operate outside the rules'. As we have seen in the case of Jomini, the 'art of war' was essentially a schematic which attempted to provide for most, if not all, the possibilities in war. These constituted the 'rules' and 'laws' that governed war and its conduct. But we

³⁵⁰ Clausewitz, *On War*, p 140

have also noted that despite the bent to over-rationalize the phenomenon of war, these rationalistic theorists of the Enlightenment era were also cognizant of the fact that within the phenomenon of war there was a space that was ridden with chance and uncertainty, which in the case of Jomini, was dispatched to the realm of the genius.³⁵¹ What this suggests is that for Clausewitz's predecessors, when and if necessary, talent and genius could indeed operate outside the general rules and prescriptions of war. This, as we have alluded to earlier, was their mechanism for dealing with the vagaries of chance and uncertainty. But Clausewitz insisted, in a note written either in 1808 or 1809 that "genius, dear sirs, never acts in contrary to the rules."³⁵² Instead, what Clausewitz suggests is the following:

Anything that could not be reached by the meager wisdom of such...points of view was held to be beyond scientific control: it lay in the realm of genius, which rises above all rules. Pity the soldier who is supposed to crawl among these scraps of rules, not good enough for the genius, which genius can ignore, or laugh at. No; *what genius does is the best rule, and theory can do no better than show how and why this should be the case.*³⁵³ (my emphasis)

It is interesting to note that at this point, Clausewitz appears closest to Kant, for the latter, in his monumental *Critique of Judgment*, wrote: "Genius is the talent which gives rule to art...[it] is a talent for producing that for which no definite rule can be given."³⁵⁴ Clausewitz's critique of his predecessors' theories with specific reference to the role of the genius is thus a complicated one. While on the

³⁵¹ Gat, *A History of Military Thought*, p 179-180

³⁵² Quoted in Gat, *A History of Military Thought*, p 178

³⁵³ Clausewitz, *On War*, p 136

³⁵⁴ Immanuel Kant, *Critique of Judgment*, Trans. James. C. Meredith, (London, UK: Oxford University Press, 1961), pp 168 & 181.

one hand he decries the attempt of the Enlightenment theorists to leave all and sundry which fell outside their rational schematics of war to the realm of genius, on the other hand, however, Clausewitz remained as beholden as them to the notion of the genius. The proverbial 'twist in the tale' is present in *how* Clausewitz's 'military genius' operated given the rules and principles that govern war and its conduct.

Clausewitz attributes the role of a 'rule-maker' to the genius which leads him, as we have seen, to insist on the point that 'genius never acts contrary to the rules.'³⁵⁵ Naturally, the question arises – to what end did Clausewitz position the genius as a player by rules and one who stands above them? As we have noted earlier, Clausewitz, unlike his predecessors, identified the complexity within the *mathesis, taxinomia, genesis* series as not so much a case of chaos, but rather as the inability – because of an analytical blindness - to find a *common locus*. Thus, for Clausewitz, the Genius, operated as one who by means of a superior and more acute analytical ability was able to discern the order of things in instances and events where other more common analytical efforts could only discern a seemingly insuperable fog of uncertainty.

³⁵⁵ Note: If we take Foucault's account of the disappearance of the Classical episteme and the subsequent turn to the union of history and semiotics and of the rise of what he refers to the 'interpretive disciplines', we find this there is a strong resonance between the kind of functions that the Clausewitzian genius performs. For, as Clausewitz puts it, 'what the genius does is the best rule.' In this connection also note how Dillon marks the function of the Commander or the general – the giver of signs. See Michael Dillon, "Intelligence Incarnate: Martial Corporeality in the Digital Age", *Body & Society*, (London/ New Delhi: Sage Publications) Vol. 9 (4).

We should also be careful to note that Clausewitz, in a rather self-depreciating manner, distinguishes the precise *type* of genius that plays this central role in a martial context. Thus, in his own words, Clausewitz states:

Any complex activity, if it is to be carried on with any degree of virtuosity, calls for appropriate gifts of intellect and temperament, If they are outstanding and reveal themselves in exceptional achievements, their possessor is called a “genius”... But since we claim no special expertise in philosophy or grammar, we may be allowed to use the word in its ordinary meaning ... “genius” refers to a very highly developed mental aptitude for a particular occupation.³⁵⁶

Note that this complex activity (war) was not chaotic. Indeed, it could not be. Rather, it was ‘complex’, that is say, it ranged from those empirical orders/ codes – governing perception, exchange, language, techniques, values and hierarchy of practices – to “scientific theories or philosophical interpretations which explains why order exists in general, what universal law it obeys, what principle can account for it...” The Clausewitzian Genius, thus, stands between these two extremes – in “...another domain which, even though its role is mainly an intermediary one, is....more confused, more obscure, and probably less easy to analyze.”³⁵⁷ Thus, Clausewitz noted...

...we cannot restrict our discussion to *genius* proper, as a superlative degree of talent, for this concept lacks measureable limits. What we must do is to survey all those gifts of mind and temperament that in combination bear on military activity. These, taken together, constitute *the essence of military genius*. We have said *in combination*, since it is precisely the essence of military genius that

³⁵⁶ Clausewitz, *On War*, p 100

³⁵⁷ Foucault, *The Order of Things*, p xxii

it does not consist in a single appropriate gift – courage, for example...Genius consists *in a harmonious combination of elements*, in which one or the other ability may predominate, but none may conflict with the rest.³⁵⁸ (emphasis in original)

Note how Clausewitz, while acknowledging that there is a need to precisely identify the type of genius who gains prominence in the field of military matters – the military genius – also marks the expansive essence of this particular type of genius whom he distinguishes from the other types of genius. Thus, according to Clausewitz, the military genius is one who, unlike say, like a mathematical genius or a philosophical genius, is able to imbibe a harmonious combination of elements.³⁵⁹ In fact, Clausewitz went even further. He suggested that such a genius was quite a singular personality. Thus, in Clausewitz's words, "[I]f every soldier needed some degree of military genius...armies would be very weak, for the term refers to a special cast of mental or moral powers which can rarely occur in an army."³⁶⁰ Then, after noting the importance of courage in the context of his discussion of the genius, Clausewitz highlighted the key characteristics that distinguish this genius from the 'norm'. It is worth quoting Clausewitz in some detail here.

³⁵⁸ Clausewitz, *On War*, p 100

³⁵⁹ This study has a number of uncomfortable reservations on this issue. Thus, for example, it resists Clausewitz's insinuation that 'mathematical and philosophical geniuses' fail to exhibit the ability to imbibe a harmonious combination of elements. It should also be noted, however, that the recent Alan Sokal affair did much to shake up the complacency of this author. The persons involved on all sides in this sordid affair displayed very little of the ability to imbibe 'a harmonious combination of elements'. Though, of course, the claim is also not being made that the participants in this affair were geniuses of any type. See, Sokal & Bricmont, *Fashionable Nonsense: Post-Modern Intellectuals' Abuse of Science*, (London: Picador, 1999)

³⁶⁰ Clausewitz, *On War*, p 100

If we pursue the demands that war makes on those who practice it, we come to the region dominated by the *powers of intellect*. War is the realm of uncertainty...A sensitive and discriminating judgment is called for; a skilled intelligence to scent out the truth. Average intelligence may recognize the truth occasionally, and exceptional courage may now and then retrieve a blunder; but usually intellectual inadequacy will be shown up by indifferent achievement...Since all information and assumptions are open to doubt, and with chance at work everywhere, the commander continually finds that things are not as he expected...If the mind is to emerge unscathed from this relentless struggle with the unforeseen, two qualities are indispensable: *first an intellect that, even in the darkest hour, retains some glimmerings of the inner light which leads to the truth; and second, the courage to follow this faint light wherever it may lead.*³⁶¹
(all emphasis in original)

And then to make the point even clearer, Clausewitz insisted that this faculty of the genius is not simply limited to the heat of battle, that is to say, the engagement, but also to strategy.³⁶²

By now it will have been noted that the Kantian thematic that emerges from within Clausewitz's discussion of the Genius is stark and difficult to ignore. Thus, for example, for Clausewitz, 'genius consists *in a harmonious combination of elements*'. This notion of the genius corresponds to what Deleuze describes as the Kantian notion of the genius for whom "the creative intuition as intuition of an other nature, and the concepts of reason as rational Ideas, are adequately unified."³⁶³ Note that for Kant, "the theory of Genius...manages to bridge the gap

³⁶¹ Clausewitz, *On War*, pp 101-102

³⁶² Clausewitz, *On War*, p 102

³⁶³ Deleuze, "The Idea of Genesis in Kant's Esthetics", in *Desert Islands and Other Texts, 1953-1974*, Ed. David Lapoujade, Trans. M. Taormina, (New York, NY: Semiotext(e), 2004), p67

that had opened up between the beautiful in nature and the beautiful in art.”³⁶⁴ This was not simply a matter of a theory of aesthetics, for the theme of an agreement among several faculties, which as Kant’s third Critique shows us can only be embodied in the figure of the Genius, is a running constant in the Kantian Critique. Kant, in the *Critique of Pure Reason*, had suggested that there was a tripartite harmonious relationship between the faculties of understanding, imagination and reason in keeping with a speculative purpose. The core objective of the first Critique was to demonstrate how the understanding disposes *a priori* concepts by inducing the imagination and reason to subject objects for speculative purposes to itself. In the *Critique of Practical Reason*, Kant took the argument a step further and demonstrated how reason, mediated by the Moral Law, determines supersensible objects which are necessarily subject to it and how Reason induces understanding to a particular function in accordance to a practical purpose.³⁶⁵ Thus Deleuze cautions us, “[I]n the first two Critiques...we cannot escape the principle of an agreement of the faculties among themselves. *But this agreement is always proportioned, constrained and determinate*: there is always a determinative faculty that legislates, either the understanding for a speculative reason, or reason for a practical purpose.”³⁶⁶ (emphasis in original) But, in the case of aesthetic judgment, which Kant discusses in the third Critique, “the imagination is liberated from both the domination of the understanding and

³⁶⁴ Ibid.

³⁶⁵ Ibid., p57

³⁶⁶ Ibid.

reason.”³⁶⁷ Kant’s argument, as highlighted by Deleuze, is simple, but incisive.

Thus, Deleuze notes:

Esthetic pleasure is itself disinterested pleasure: it is not only independent of any empirical purpose, but also any speculative or practical purpose. It follows that esthetic judgment does not legislate; it does not imply any faculty that legislates objects. Indeed, how could it be otherwise, since there are only two sorts of objects – phenomena and thing-in-themselves: the first are governed by the legislation of understandings for a speculative purpose; and the second, by the legislation of reason for a practical purpose?³⁶⁸

But this ‘liberation’ of the imagination also allows for the possibility of enabling the other two faculties be liberated in themselves. Thus, Deleuze, while reading Kant’s third Critique tells us that...

...the *Critique of Judgment* releases us in a new element: 1) a contingent agreement of sensible objects with all our faculties together, instead of a necessary submission to one of the faculties; 2) a free indeterminate harmony of the faculties among themselves, instead of a determinate harmony presided over by one of the faculties.³⁶⁹

It is only after establishing this that Kant, according to Deleuze, suggests that the Genius “engenders the esthetic agreement between the imagination and the understanding. It engenders each faculty in this agreement: the imagination as free, and the understanding as unlimited.”³⁷⁰ Thus, the complex arguments that

³⁶⁷ Ibid., p58

³⁶⁸ Ibid., pp58-59

³⁶⁹ Ibid.

³⁷⁰ Ibid., p69

make up Kant's *Critique of Judgment* "converge on...the suprasensible unity of our faculties, "the point of concentration," the life-giving principle that "animates" each faculty, engendering both its free exercise and its free agreement with the other faculties."³⁷¹ It is for this reason that Kant emphasizes the crucial role played by his *Critique of Judgment*, for it was nothing less than an attempt by which a passage between a speculative purpose and a practical purpose is made.

The significance of the Kantian notion of the Genius, which equally applies to the Clausewitzian notion of the genius is, thus, aptly summed up by Deleuze in the following terms:

Genius has properties analogous to those of purpose: it furnishes a matter, it incarnates Ideas, it causes reason to give birth to itself, and it liberates the imagination and expands the understanding. But genius exercises all these faculties first and foremost from the vantage point of the creation of a work of art. Finally without losing any of its singular and exceptional character, genius must give a universal value to the agreement which it engenders, and it must communicate to the faculties of the spectator something of its own life and force.³⁷²

The Clausewitzian genius which, as we have established above, is closely modeled along the lines of the Kantian genius is thus an entity or an agent that is able to operate in an unrestricted manner in a condition bereft of the faculties of reason and understanding. This, as we have seen, is the condition that is not only evident in the chance and uncertainty that characterizes Real and Absolute War,

³⁷¹ Ibid.

³⁷² Ibid., p71

but also in that gap between the two, which we identified as being the pure concept of war. We should also not ignore the core functionality of the Clausewitzian genius, who was not simply limited to operating in an unrestricted manner in conditions bereft of reason and understanding, he was also to 'make' rules, principles and laws by which reason and understanding could be brought to such conditions.

Thus, we find the Clausewitzian Genius performing three critical functions. First, the Genius deals with the complexity of the machinations of the war-machine, that is to say, with the fog and friction that is internal to the war-machine. In this role, the Genius is the one who is able to, by means of a superior faculty of perception, make causal connections and to chart out the likely trajectory of the effects of such friction. Second, the Genius also deals with the external friction that comes about as the war-machine comes in contact with its operational environment. This operational environment is marked by a proliferation of qualities and forms - a multiplicity of existing things - which creates "tangled paths, strange places, secret passages, and unexpected communications."³⁷³ Yet, as Foucault shows us, this profusion of forms and qualities was (and remains) underwritten by the *mathesis, taxinomia, genesis* series, which hinted at the presence of an order "which is given in things as their inner law, the hidden network that determines the way they confront one another, and also that which has no existence except in the grid!..and it is only in the blank spaces of this grid that order manifests itself in depth as though already there,

³⁷³ Foucault, *The Order of Things*, p xx

waiting in silence for the moment of its expression.”³⁷⁴ For the majority, afflicted by an analytical blindness that the initial plethora of qualities and forms trigger, discerning this overt and covert presence of order can be daunting. Thus, the second task of the Genius was to be able to cast a keen eye over such tangled pathways and to recover the order that lay below such ‘tangled pathways’. The third task of the genius was to make “manifest the modes of being of order (which) can be posited as the most fundamental of all: anterior to words, perceptions, and gestures”.³⁷⁵ Recall, in this context, that the key characteristic of the Kantian Genius was to be able to incarnate Ideas, to assist in the birth of Reason, to liberate the Imagination and to expand understanding. In a similar fashion, by deploying higher intellectual abilities backed by a very finely tuned pitch of vision, the Clausewitzian Genius strove to bring order to the ‘chaos’ of war. Thus, Clausewitz, while noting that the genius could never hope to be of historical significance if he did not display courage, fortitude, character and temperament, observed that...

...Circumstances vary so enormously in war, and are so indefinable, that a vast array of factors has to be appreciated – mostly in the light of probabilities alone. The man responsible for evaluating the whole must bring to his task the quality of intuition that perceives the truth at every point... What this task requires in the way of higher intellectual gifts is a sense of unity and a power of judgment raised to a marvelous pitch of vision, which easily grasps and dismisses a thousand remote possibilities which an ordinary mind would labor to identify...³⁷⁶

³⁷⁴ Ibid., p xxi

³⁷⁵ Ibid., p xxiii

³⁷⁶ Clausewitz, *On War*, p 112

In this context, recall also Clausewitz's principal concern while fashioning a viable theory of war. As we have seen, he insisted that his theory of war would leave room for every sort of extraneous matter, which resists codification – indeed even the prospect of theorization. Given the above, it is not surprising that, for Clausewitz, the Genius was the ultimate instrument who could gather up all these loose ends (which in the context of war and life are complex, multi-varied and which continually multiply exponentially) thereby fashioning an order of sorts, which become laws, rules and principles, in the loose manner in which Clausewitz had defined them.

The only matter that now remains to be addressed before we can conclude this extended discussion on the Clausewitzian architectonic of war is the question of the immanence of chance and uncertainty that we asserted Clausewitz had fleetingly alluded to when he referred to 'the pure concept of war.' We have already established that a 'formal' theory of war – as the examples from the theories of war of the Enlightenment show us – would have not been able to accommodate the fog and friction of war, leave alone the chaos that characterizes chance and uncertainty in their immanent form. We also noted Clausewitz's recognition of this and of his disparaging observations on the attempts of his predecessors to do precisely this. The question thus remains: Given that we have asserted that Clausewitz did in fact recognize the immanent face of chance and uncertainty, how did his theory of war accommodate the same? We have already noted that Clausewitz had remained silent about this problem. But, considering

the functions of the genius, particularly the third function as mentioned above, we will not be too far off the mark if we suggest that, for Clausewitz, the genius remained the only viable instrument by which chance and uncertainty – in their immanent guise – could be dealt with. Recall, that following Kant’s argument, the Clausewitzian genius was the only one who could ‘perceive the truth at every point’. We also noted in our discussion of the Kantian Genius that the Imagination is freed from the constraints of understanding. Moreover, under the regime of the Kantian Genius, reason, understanding and imagination achieve a ‘free/ liberated’ unity thereby infusing what Deleuze refers to as “the life-giving principle that animates each faculty, engendering both its free exercise and its free agreement with the other faculties...(resulting in)...the supersensible unity of our faculties.”³⁷⁷ It is important for us to note that the notion of a ‘unity’ (which in Kant’s case is ‘suprasensible’) that the Kantian genius brings about is a throwback on the essential order of things – overt and covert - that Foucault had alerted us to. Of course, this unity which is obtained by the harmonious combination of the faculties is one which is invisible, though existent, to more common minds. Thus, the Genius – and this is as applicable to Kant as it is to Clausewitz – when faced by the immanence of chance and uncertainty and in the absence of any specific determinations is able to ‘create matter’, which also entails the giving of ‘form’ by adjusting the imagination which is liberated from an indeterminate understanding. In this way, the Genius is able to cognize the slice of chaos that seemingly rents life and war and is able to posit a universal value. It would, therefore, seem that despite the free reign that the Genius gives to the Imagination

³⁷⁷ Deleuze, “The Idea of Genesis in Kant’s Esthetics”, in *Desert Islands*, p69

– under the Kantian system – the turn to an ordering remains in place, though the act of this ordering is wholly limited to the purview of the Genius. Thus, while Clausewitz, understandably remains silent on the matter of the pure concept of war and of the immanence of chance and uncertainty that that condition entails, implicit in his positioning of the genius in his discussion of war, is the belief (for it is nothing less than that) that the faculties that the genius can marshal can create some kind of a comprehensible and coherent order from the chaos of chance and uncertainty.

Clausewitz: Q. E. D.

When we began our discussion on Clausewitz and his handling of chance and uncertainty in war, it was suggested that the core problematic for Clausewitz was not simply the combating of chance and uncertainty – manifested as the fog and friction of war – rather, it was more a question of how to think when the condition of thought is one of chaos. It will be noted with some interest that while Clausewitz did not seem to make much headway in this direction, our discussion on his notion of the genius and his positioning of the genius in the broader outline of his architectonic of war signals that Clausewitz was fully aware of the immanence of chance and uncertainty in the context of life, war and the conduct of war. Given that he was operating from within a Kantian-inspired regime of thought and philosophy, for Clausewitz, the genius was the best, most optimal, instrument that he could deploy to address the unique problem posed by the

originary anteriority of chance and uncertainty. It also allowed him to devise an architectonic of war that - unlike that of his predecessors - resisted any serious deconstruction under the relentless assault of these twin phenomena. This, as the history of military thought since Clausewitz demonstrates, has remained central to any serious consideration of war and its conduct. In a similar fashion, his enframing of what originally started as the pure concept of war - and in its modified form, Absolute War - with the rational order of politics served to bring war to reason and made war Real. Collectively then, these twin Clausewitzian features - the rational order of politics and chance and uncertainty (in all their senses) mediated by the Genius - served as an endoskeleton to his architectonic of war. They have also served to ensnare our imagination of war till date.

However, it is only with the emergence of NCW that this Clausewitzian imagination of war begins to achieve its materiality - in Real and Virtual terms. As was noted at the very outset of this study, this transformation is being accompanied by a re-threading and re-weaving of the two principle sinews of the Clausewitzian imagination of war - politics and chance/ uncertainty. In what follows, we will take a closer look at the phenomenon of NCW which, as a concept of operations, is an ambitious attempt to re-present the original Clausewitzian theory of war within mobile and real-time landscapes of various hues, complexities and probabilities and, in this sense, is being touted as *the* theory of war for the 21st Century.

Chapter Three

Machining (Network-Centric) War or...

...terminal hate, it's a calculation...¹

Behind the Network Paradise

In late 1957, the US military and scientific community suffered, what can only be called, a strategic surprise. Weighing 183 pounds, with a 96-minute orbital cycle around the earth, Sputnik, the world's first artificial satellite, had been launched by the USSR.² This event had, among others, one particular repercussion which is of interest to us. The launch of the Sputnik forced US military thinkers and scientists to consider its impact in terms of the potential exploitation of 'space' (as a so-called 'dimension') and the resultant geopolitical and strategic implications that emerged as a consequence. President Eisenhower was quick to realize that there was an immediate and urgent need to harness the scientific talent of the US and thus, in 1958, he established the ARPA (Advanced Research Projects Agency), which was configured to be the central research and development organization for the U.S. Department of Defense.³ Within the ARPA, it is significant to note, a special office was established to support research dealing with the field of computers and computer related technologies.

¹ Black Sabbath, "Computer God" from *Dehumanizer*, 1992

² Roger D. Launius, NASA Chief Historian, "Sputnik and the Dawn of the Space Age", Available at <http://www.hq.nasa.gov/office/pao/History/sputnik/sputorig.html>. Last accessed on July 28, 2004.

³ Hafner & Lyon, *Where Wizards Stay Up Late – The Origins of the Internet*, (New York, NY: Touchstone Books, 1998), pp 11-20.

This was the Information Processing Techniques Office (IPTO)⁴. In addition to its ‘pure research’ tasks, ARPA was also assigned to look into how best to utilize its investment in computers via the Command and Control Research (CCR) program.⁵ These were the beginnings of the ‘network-concept’ in its most material of manifestations.

Further, in the 1960s, scientists began to come to the conclusion that some kinds of behaviour occurring in the natural world were patently inexplicable when examined in detail. Increasingly, they began to discover that “the intrinsic inter-relationships of elements within a complex system give rise to multiple chains of dependencies”.⁶ They also discovered that the existent tools – primarily mathematical – were unable to analyze and model the behaviour of these complex systems. This led to a spurt of activity in what became the field of the ‘new’ physics – chaos, complexity and non-linearity. Though preceded by luminaries like Jules-Henri Poincaré who, as a USAF officer in a classic example of an understatement put it, “had inklings of the existence of chaos”⁷ in the late 1800s, it was the work done by Edward Lorenz in the field of meteorology that first enabled, using large computers, a detailed observation of the phenomenon.

⁴ Mark Buchanan, *Small World – Uncovering Nature’s Hidden Networks*, (London, UK: Phoenix Publications, 2003), p 73. See also “ARPA and the ARPANET – A Brief History”, Available at <http://www.computermuseum.li/Testpage/99HISTORYCD-ARPA-History.HTM>. Last accessed on July 28, 2004.

⁵ Michael & Ronda Hauben, “Behind the Net: The Untold History of the ARPANET and Computer Science”, in *Netizens: On the History and Impact of Usenet and the Internet*, Net Book, Available at <http://www.columbia.edu/~rh120/ch106.x07>. Last accessed on July 28, 2004. See also “ARPA and the ARPANET – A Brief History”, Available at <http://www.computermuseum.li/Testpage/99HISTORYCD-ARPA-History.HTM>. Last accessed on July 28, 2004.

⁶ James Moffat, *Complexity Theory and Network-Centric Warfare*, Information Age Transformation Series, (Washington, DC: US DoD, CCRP, 2003), p 2.

⁷ Glenn E. James, Maj. USAF, *Chaos Theory – The Essentials for Military Applications*, The Newport Papers, Number 10, (Newport, RI: Naval War College, 1996), p 5.

“Lorenz was trying to make sense of the all-too-frequent discrepancies between what weather forecasters say and what actually happens.”⁸ As a result of his investigations, Lorenz coined the now famous phrase - ‘the butter-fly effect’ - which “captured the idea that through chaos the smallest of events can lead to the most massive of consequences.”⁹ In due course “the ‘butter-fly effect’ acquired a technical name: sensitive dependence on initial conditions.”¹⁰ The consequences of these investigations have had a tremendous impact on thinking about war and its conduct. As we shall see, these innocuous beginnings were portents of the emergence of a phenomenon, which would have a lasting effect on warfare and its conduct. In this sense, they were also the conceptual bedrock on which the emerging edifice of NCW stands.

But while we do so, it is also important not to lose sight of the fact that we can trace these seemingly radical transformations - popularly gathered under the rubric of NCW – that are underway in the theory and practice of war today to concepts present in Clausewitz’s theory of war. Earlier, it was suggested that Clausewitz’s architectonic of war was mapped along what Foucault identified as the *mathesis-taxinomia-genesis* series. This was, as we have seen, based on the series that Kant had developed in his Critiques – *reason, understanding and the imagination*. Further, it was suggested that between the gaps and crevices that accompanied particularly the *taxinomial* order of things, there were other hidden

⁸ Peter Coventry and Roger Highfield, *Frontiers of Complexity – The Search for Order in a Chaotic World*, (New York, NY: Ballantine Books, 1995), p 169.

⁹ *Ibid* p 170.

¹⁰ James Gleick, *Chaos – The Amazing Science of the Unpredictable*, (London, UK: Random House, 1988), p 23.

sources of order, which only – this applying as much to Clausewitz, as to Kant – the Genius could discern. For the most part, however, these gaps and crevices were characterized by conditions of complexity that veered into chaos. The Genius thus was the primary instrument by which military theorists, including Clausewitz, dealt with this condition of complexity, non-linearity and chaos. With the emergence of the ‘new sciences’, however, the Genius in martial terms, begins to undergo a curious ‘democratization’. Buoyed by the rapid developments and evolutionary changes in ICTs which, in turn, are deeply informed by the theories of networking, complexity, and non-linearity, the hitherto ‘singular’ agency of the Romantic Genius is undergoing a rapid transformation into a distributed and decentralized capability. The power of the genius, it could be said, is being pushed to the edges.

Semantic Implications of Network-Centric Warfare

Foucault teaches us that “in every society the production of discourse is at once controlled, selected, organized and redistributed according to a certain number of procedures”.¹¹ A careful examination of such practices of any society and its institutions reveals the often hidden prohibitive and exclusive practices that govern the production of discourse and more often than not they are geared to establish, in Foucauldian terms, an ‘order of things’. A cautionary note is necessary here. The phrase ‘order of things’ invites a perspective that focuses on

¹¹ Michael Foucault, *The Archeology of Knowledge and the Discourse on Language*, Trans. A. M. Sheridan Smith, (New York, NY: Tavistock Publications, 1972), p 216.

“a totalitarian periodization, whereby from a certain moment and from a certain time, everyone would think in the same way, in spite of surface differences, say the same thing...”¹² This is a flawed perspective. An investigation of discursive practices and formations uncovers “a level of homogeneity that has its own temporal articulation...and...at this level it establishes an order, hierarchies...that excludes a massive amorphous synchrony, given totally once and for all.”¹³ This implies that while homogeneity does exist, it is temporally specific and susceptible to change. In other words, it is an ‘achievement’ and not a ‘raw reality’. Whether this change is dramatically revolutionary or is a gradual and evolutionary process is open to debate, but the fact cannot be dismissed that the element of change remains a constant feature of discursive practices characterized by a “series of gaps, intertwined with one another, interplays of differences, distances, substitutions, transformations.”¹⁴ The issue surrounding the production of discourse and discursive practices that is of interest to us, given the overarching field of our genealogical investigation, is that of ‘exclusion’. Foucault identifies this as the principle of exclusion characterized by, among other things, a division and rejection - specifically the opposition between ‘reason and folly’.¹⁵ It is instructive to note that Foucault, especially in the latter stages of his career, based on this attempted “to develop a theory of the relation between war and power as well as a strategy of power”.¹⁶ Now, working from the premise that NCW is

¹² Ibid p 148.

¹³ Ibid.

¹⁴ Ibid p 37.

¹⁵ Ibid p 217.

¹⁶ Julian Reid, “Foucault on Clausewitz: Conceptualizing the Relationship between War and Power”, in *Alternatives* 28, 2003, 1-28.

concerned not only with power, but also with its strategization or transformation, it will be worth our while to consider an illustrative example offered by Foucault in some detail.

In the Middle Ages, Foucault suggests, the phenomenon of madness was reflected in speech as the words of a madman stood outside common discourse.¹⁷ By this Foucault means to say that the speech of the madman was “considered null and void, without truth or significance, worthless as evidence, inadmissible in the authentication of acts or contracts.”¹⁸ But Foucault also identifies a curious paradoxical situation at play here, which is attributable to the ‘form’ of the madman’s speech. He finds that while the madman’s speech was considered to be outside ‘reason’ and ‘rationality’ there was, simultaneously, a curious investiture of some hidden truth in the madman’s words, which were often taken to be a signature of “rationality more rational than that of a rational man.”¹⁹ In the late eighteenth century, however, a superficial change appears to occur. The madman’s speech was no longer dismissed as meaningless. Even the silence of the madman ‘conveyed’ meaning. In other words, there was an increased interest in the ‘content’ of the madman’s speech; a prioritization of the ‘content’ over the ‘form’ began to appear. This, Foucault contends, begins to occur within a network

¹⁷ See Foucault, *Madness and Civilization – History of Insanity in the Age of Reason*, for an incisive survey of the historical development of the phenomenon of ‘madness’.

¹⁸ Ibid.

¹⁹ Ibid.

of institutions characterized by the techniques of epistemic and documentary 'discipline'.²⁰

A couple of issues can be noted from Foucault's investigation. The first is the change in the emphasis from 'form' to 'content'. This points to the (re)location of 'truth' characterized by reason, which is increasingly found in the 'content' as opposed to the 'form' of speech, a fact which, Foucault claims, has its antecedents from the Greeks of the sixth and seventh century.²¹ The second is the looming presence of institutions that 'permits'/ authorizes/ legitimates the 'deciphering' of the madman's speech according to certain established norms. In other words, the activities of the doctors and psychoanalysts (collectively, the 'agents' empowered to 'listen' to and 'understand' the speech/ silence of the madman) is 'guided' by the network of institutions that they are a part of. In other words, 'truth' becomes an institutional preserve.

Further, it will be appreciated that the relocation of 'truth' from the 'form' of speech to its 'content' combined with the directive/ authorizing/ legitimizing function of institutions marks the 'exclusive' nature that discursive practices have assumed. The quantification of the *ab-normal* is at once - by means of the techniques of classification and documentation - both individualizing and marginalizing. Those who conform are 'in' and those who do not are 'out'. It is a

²⁰ Foucault, *Discipline and Punish – The Birth of the Prison*, pp 189-194.

²¹ Foucault suggests that the division between 'true' and 'false' "is a historically constituted division" and cites the example of the division between Hesiod and Plato where "the highest truth no longer resided in what discourse *was*, nor in what it *did*: it lay in what was *said*." (emphasis in original). See Foucault, *The Archeology of Knowledge and the Discourse on Language*, p 218.

specific technique of power and the relationality of the individual, marked by an unusual submission, to this particular mechanism of power is reflective of the hegemonic tendency inherent in formations and practices of discourse. It is curious, in this connection, to note that if discursive practices are, among other things, the grounds for the ‘conditions of possibility’, then those very grounds are sites wherein the maximum of power is exercised in very particular and specific ways.²² It does not take too much of an effort to observe that discursive practices, understood in light of the institutional operation of power relations attempt to not only control the ‘conditions of possibility’, but also prescribe the terms and conditions and thus limit the ‘conditions of possibility’ by circumscribing them with rules, laws, disciplines and doctrines.

Two points of interest catch our attention from Foucault’s example of the madman. The first is observed by Jacques Derrida, who looks closely at the issue of madness, a position contra reason. The other is observed by Michael Dillon who examines the transient nature of words and, by extension, of language. We will examine both these points as they influence, by means of their intense engagement with the question of language and discourse, not only our account of NCW, but of NCW itself.

Derrida, on a close reading of Foucault, identifies a ‘trap’ which, while Foucault is acutely aware of, fails to avoid when he purports to write ‘a history of

²² Ibid., p 216. Foucault alludes to this when he marks the site where the web comprising of prohibitive and exclusive practices prominently appears. He finds, in his investigations, that this complex web “is most tightly woven...where the danger spots are most numerous...politics and sexuality.”

madness'. The 'trap' is the one set by classical reason to 'catch madness'²³ and it is the trap of circularity. A history of madness (as distinct, for example, from that of psychiatry which purports to 'study' madness) should, in simple terms, lie outside the frame of reason (where madness lies beyond/ outside the domain of reason - free from all comparative and contextual links to reason), yet the language that attempts to express this history is itself, to use a business term, a 'wholly owned subsidiary' of reason. Thus, Derrida, in his observation of this 'trap' that Foucault's project is susceptible to, is articulating the futility of attempting a study of madness from within the confines of reason.²⁴ A valid analysis of discourse, indeed of language, then depends on perceiving this flawed point of debouchment that the analysis is premised on. Importantly, Derrida's observation also highlights the implicit violence that is present within reason itself as it attempts to account for madness within its own logic by means of casting madness as its own anti-thesis. This is reason's strategic maneuver and is geared to 'contain' madness within its domain manifested by our recourse to develop and deploy strategies to articulate that which may lie outside the domain of reason.²⁵ The envelope of reason is thus continually being pushed outwards.

Dillon, on the other hand, observes that words are "literally incomplete...no word commands that of which it speaks, or what is spoken

²³ Jacques Derrida, *Writing and Difference*, Trans. Alan Bass, (Chicago, IL: Univ. of Chicago Press, 1978), p 34.

²⁴ *Ibid.* p 36.

²⁵ *Ibid.*

through it...Neither can words simply be commanded.”²⁶ The uncanniness of words is evident in the fact that they speak not only by their articulations, but also by their silence,²⁷ meaning that, aside from their activity of revealing, words also engage in acts of concealment. Words (and by extension language), therefore, display an inherent elusiveness and, as Dillon states, an “incorrigible recidivism.”²⁸ Thus, for example, ‘words fail us’; ‘we are rendered speechless’; ‘we remain silent’ in more ways than one. Silence (which is both silence as opposed to that which is audible and the implicit silence of words which emerges by the very act of articulation in the form of that which remains unarticulated) then, like speech, is a discourse and is pregnant with meaning - comprehensible or otherwise. Foucault alludes to this in the silence of the madman and the parallel focus of institutions and their agents on this very phenomenon of silence in their bid to gain mastery over this (silent) discourse. Yet, in light of Dillon’s observations, one is left wondering whether the propensity of institutions to effect a totalizing control by means of discourse, discursive practices and ultimately words that simultaneously speak and remain silent is not as complete as, say, Foucault’s study of madness would suggest, albeit at a superficial level.

What Foucault’s project, supplemented by Dillon’s keen observations, does highlight is the continued *attempt* being made by institutions and practices to overcome these gaps and omissions in language and discourse. Of course, these

²⁶ Michael Dillon, *The Politics of Security – Towards a Political Philosophy of Continental Thought*, (London, UK: Routledge, 1996), pp 113-114

²⁷ *Ibid* p 114.

²⁸ *Ibid*.

attempts are both overt and covert. More often than not, these ‘colonizing’ and controlling attempts are masked by a seductive allusion to the provision of security, whereby the latent insecurity (manifested by the instability) of discourse are deemed to be mitigated under the shadow of institutions and their agents²⁹ by means of established norms, rules, laws and doctrines. Thus we are able to identify the location of power and the methods of its exercise. Deleuze and Guattari, who observe that “(L)anguage is made not to be believed but to be obeyed, and to compel obedience”,³⁰ reinforce our observation. Consequently, our account of the genealogy of NCW, in the context of the emergence of ICTs, now takes a radical turn. The control and disciplining practices that were deemed to be present, as shown by Foucault, suddenly achieve a magnification that entails a very close look at the dynamics at play in the discourse of NCW.

The Technologisation of Discourse

In the late 1970s, the Soviet General Staff prompted by their “anxiety of watching a more technologically advanced United States develop new technologies and move to incorporate them into new military systems”³¹ began to speculate about the long-term consequences of such developments with specific reference to warfare and its conduct. Labeling it as a ‘military-technical

²⁹ Foucault, *The Archeology of Knowledge and the Discourse on Language*, p 216

³⁰ Deleuze & Guattari, *A Thousand Plateaus – Capitalism and Schizophrenia*, (London, UK: Continuum, 2003), p 76.

³¹ Andrew F. Krepinevich Jr., *The Military-Technical Revolution – A Preliminary Assessment*, Center for Strategic and Budgetary Assessments, (Washington, DC), 2002. pp 5-6 (of PDF Version). Available at www.csbaonline.org/4Publications/Archive/R.20021002.MTR/R.20021002.MTR.pdf. Last accessed on July 28, 2003. This report was first prepared in July, 1992 at the behest of the Office of Net Assessment, United States Government.

revolution' or MTR, Soviet military thinkers focused closely on what they considered to be the key drivers of such a revolution. They identified informatics and precision-guided weaponry, employed at extended ranges, as being the critical factors that were changing the traditional reliance on quantity to that of quality.³² They further foresaw the development of even more advanced technologies, such as directed-energy weapons, which they speculated would be coupled with a highly efficient and diverse array of information processing technologies. The conclusions that they drew from their analysis of these developments and speculations were three-fold. First, they envisaged the future battlefield as being one where time would be increasingly compressed. Second, to be able to exploit this growing array of technologies – both the destructive weapons-platforms and the enabling and underlying informatics – a 'reconnaissance-strike complex' (RSC) would emerge which would take the shape of a network in which information acquisition, analysis, fusion, dissemination technologies would be interlinked with very advanced and highly capable weapon systems and third, as a consequence of the development of this highly integrated network, the ability to engage a wide and diverse array of critical targets at extended ranges would become possible, thereby dramatically blurring the traditional 'frontlines'/ 'rearward areas' distinction of the battlefield.³³

³² Ibid p 17.

³³ Mary C. Fitzgerald, "The Soviet Military and the New Air War in the Persian Gulf", *Airpower Journal*, Winter 1991. Available at <http://www.airpower.maxwell.af.mil/airchronicles/apj/fitzg.html>. Last accessed on July 28, 2004. See also Krepinevich Jr., *The Military-Technical Revolution – A Preliminary Assessment*, pp 5-6 (of PDF Version). Available at www.csbaonline.org/4Publications/Archive/R.20021002.MTR/R.20021002.MTR.pdf. Last accessed on July 28, 2003.

This Soviet perspective shared many common features with what “Admiral William Owens (Retd.), (former) Vice Chairman of the (US) Joint Chiefs of Staff, later wrote on the ‘system of systems’ - a world in which the many kinds of sensors, from satellites to shipborne radar, from unmanned aerial vehicles to remotely planted acoustic devices, will provide information to any military user who needs it.”³⁴ The RSC as foreseen by the Soviets and the ‘systems of systems’ (SOS) referred to by Admiral Owens shared two common elements. First, in their crudest formulations, they remained highly focused on technology and second, and more importantly, despite their obvious technological bias, both the perspectives clearly foresaw that the future of military strategy was centrally premised on information and its integration “with systems of weaponry and warriors for a seamless sensor-to-shooter flow. Linking these with capabilities of maneuver, strike, logistics and protection”³⁵ would be critical in exploiting the OODA Loop of an adversary as the diagram below shows.

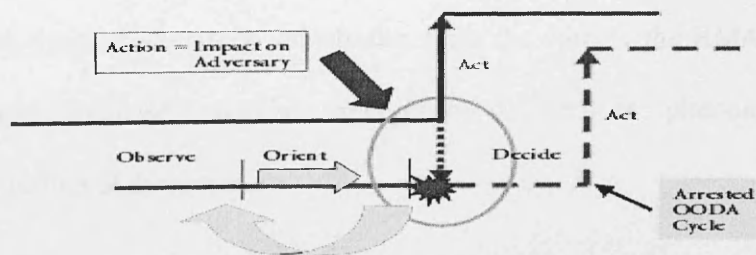


Figure 2: Shrinking the OODA Cycle

Source: Edward S. Smith, “Network-Centric Warfare – What’s the point?” *Naval War College Review*, Winter, 2001, pp 59-75.

³⁴ Eliot A. Cohen, “Revolution in Military Affairs”, *Foreign Affairs*, Vol. 75, Issue 2, pp 37-55 March-April 1996.

³⁵ Annette J. Krygiel, *Behind the Wizard’s Curtain – An Integration Environment for a System of Systems*, (Washington, DC: US DoD, CCRP, 1999), p 1.

There are three critical issues at stake in what has been described above:

1. The systematic use of information as the generative principle of formation³⁶ and the centrality of this in the future-oriented speculations of war and its conduct evidenced by the desire to create a 'seamless sensor-to-shooter' flow.
2. The criticality of the role played by information, computing and communication technologies evidenced by the increasing emphasis being placed on the 'network'. As an aside, we also note the distinct change of emphasis from individual and/ or collectives of weapons-platforms to the network on and within which these platforms are now being situated.
3. The orientation to exploit the network to possess dominant battlespace knowledge and to experience 'full spectrum dominance'.

Of course, these observations, which also form the core of the RMA and NCW thesis, are premised on the emergence of another phenomenon: the technologisation of discourse.

'Technologisation', here used in its Heideggerian sense,³⁷ is 'that relation to the world which treats every possibility in the world as material available for

³⁶ Michael Dillon, "Network Society, Network-Centric Warfare and the State of Emergency", in *Theory, Culture and Society*, (London/ New Delhi: Sage Publications), 2002. Vol. 19 (4): 71-79.

³⁷ Personal interaction with Prof. Michael Dillon, Lancaster University, UK. August 4, 2004. I would also like to record my acknowledgement to Prof. Dillon for the section on the 'technologisation of language',

use and reuse for the revealing of the world'. It is the process of bringing the world to presence.³⁸ Given that the world is revealed to us by language (understood in the widest of connotations), then it follows that language must also be understood as a technology, that is say, a 'material available for use and reuse for the revealing of the world.' In this way, language, it could be said, may be understood as being technologized.³⁹ The reduction of language to digitized code exemplifies the reduction of language into a fungible materiality whose ultimate value is in its utility to 'reveal' the world in a calculable and programmable manner. This attempt to reduce language by means of its technologisation is nothing else other than an attempt to attain mastery over language.⁴⁰ The project of digitalization, wittingly or otherwise, assists in this. Coupled with the disciplinary practices of institutions, which are also engaged in these very kinds of reductive activities (that is to say they are, by their exclusionary and prohibitive practices, also engaged in a process of technologisation), the technologisation of language and by extension, of discourse has widespread and deep implications, especially in the context of NCW. But before we explore these implications, let us recall what NCW is.

Network-centric warfare... are military operations...enabled by the networking of the force. Network-centric operations provide a force with access to a new,

which unfolded over a series of personal meetings and email exchanges. See also Martin Heidegger, "The Question Concerning Technology", in *Basic Writings*, Revised and Expanded Edition, Ed. David Farrell Krell, (London, UK: Routledge, 2002), pp 311-341.

³⁸ Ibid. p 322.

³⁹ As opposed, say, to seeing language as poeticized in the way that, for example, Heidegger, Gadamer and others do. See Michael Dillon, "Poststructuralism, Poetics and Complexity", in *Theory, Culture & Society*, (London/ New Delhi: Sage Publications), 2000. Vol. 17 (5): 1-26.

⁴⁰ Dillon, *The Politics of Security – Towards a Political Philosophy of Continental Thought*, p 114.

previously unreachable region of the information domain. The ability to operate in this region provides warfighters with a new type of information advantage, an advantage broadly characterized by significantly improved capabilities for sharing and accessing information. Network-centric warfare enables warfighters to leverage this information advantage to dramatically increase combat power through self-synchronization and other network-centric operations.⁴¹

From this we can deduce that NCW, where battle time plays a critical role, is primarily about:

1. speed of command and
2. self - synchronisation - to meet the commander's intent.⁴²

On conducting an analysis of landmark battles and campaigns, we find that the issue of C2 is one of great complexity and consequently of highest importance.⁴³ It is, therefore, not surprising that Clausewitz had stressed that one of the primary displays of friction was always manifested within the C2 function.⁴⁴ Martin van Creveld has also highlighted the complications involved in the C2 functions of a modern-day military organization as evidenced by the experiences of the US

⁴¹ John J. Garstka, "Network Centric Warfare: An Overview of Emerging Theory", Joint Staff Directorate for C4 Systems. Available at <http://www.mors.org/publications/phalanx/dec00/feature.htm>. Last accessed on July 28, 2004.

⁴² Vice Admiral Arthur K. Cebrowski, (Rtd.) U.S. Navy, and John J. Garstka, "Network-Centric Warfare: Its Origin and Future", *Proceedings of the Naval Institute*, 124:1 (Jan. 1998): 28-35 Available at <http://www.usni.org/Proceedings/Articles98/PROcebrovski.htm>. Last accessed on July 28, 2004.

⁴³ See Martin van Creveld, *Command in War*, (Cambridge, MA: Harvard University Press, 1985), for an extended but specific discussion of the issue of command and control in war.

⁴⁴ Alan D. Beyerchen, "Clausewitz, Nonlinearity, and the Unpredictability of War", *International Security*, 17:3 Winter, 1992.

Army in Vietnam.⁴⁵ Recall in this context the problem of ‘information overload’ that afflicted the US military organization in Vietnam.

The primary issue associated with ‘information overload’, in the context of C2 functions, is the virtually unlimited amounts of information that commanders at all levels must contend with. Coupled with this the decision-making activities of commanders at all levels, which are set against a ‘tempo’ (of operations), understood in terms of ‘getting inside’ the OODA Loop of an adversary (alternatively, exploiting the enemy’s OODA cycle) and the need to maintain surprise, increase lethality and ensure survivability becomes highly problematic and assumes a significant importance.⁴⁶ The effort to digitize the C2 environment is geared to address precisely this problem.

Digitization of the C2 environment would, it is speculated, enable a force to improve its information sharing capabilities, which would, in turn, enhance the quality of information and shared Situation Awareness (SA).⁴⁷ Collectively, it is hoped that these would increase the ‘mission effectiveness’ of the fighting force.⁴⁸ Digitization, in this context, has a limited connotation. It specifically refers to the ‘hardware’ and ‘software’ aspects of ICT. What remains unmentioned is the need to recognize the critical condition of the ‘wetware’ that this digitization project

⁴⁵ Martin van Crevald, *Command in War*, pp 232-260.

⁴⁶ Jake Thackeray, “The Holy Grail”, in *The Big Issue: Command and Combat in the Information Age*, Ed. David Potts, Information Age Transformation series, SCSC Occasional No. 45, (Washington, DC: US DoD, CCRP, 2003), p 43.

⁴⁷ *Ibid* p 48.

⁴⁸ *NCW Report to the US Congress*, US DoD, July 2001.

also entails. If information is to be disseminated widely, richly and liquidly, then the texture of information, as much as the content-value of information, becomes an important metric and under battle-conditions, even more so. The project of digitization in the NCW context, therefore, recognizes that the inherent disruptiveness of language contributes to the wide variety of textures of information. In other words, it is being recognized and appreciated that varying textures of information do not allow for a 'seamless sensor-to-shooter' flow. Recall, in this context, the technologisation of language.

As previously established, the technologisation of language, aided and abetted by the project of digitization, works to reduce language to (1) allow for gaining a mastery over it and (2) to limit the 'conditions of possibility' that language implicitly allows – a fact which is reflected in what Dillon alludes to in terms of the 'incurable recidivism' of words and by extension of language. In the context of NCW, then, the project of digitization is oriented to bring about this uniformity and to establish a particular and very specific discourse, which would be geared to depict a 'common perspective' (in NCW terms, a 'common operational picture' or COP), alternatively a common world, which would be enmeshed within the confines of the network.⁴⁹ The network, thus, would

⁴⁹ See David S. Alberts, *Information Age Transformation – Getting to a 21st Century Military*, Information Age Transformation Series, (Washington, DC: US DoD, CCRP, 2003), p 46. In a footnote, Alberts points out that the COP is "not really a common picture, rather (it is) all about the consistency of the underlying data information (sic), and the ability to have 'views' that can be tailored by participants to support their different roles and responsibilities." It is significant to note that the distinction that Alberts is attempting to highlight is, in real terms, flawed. The consistency of data/ information establishes the commonality of the data/ information and the ability to 'have views' is conditioned by the framework within which those views are formed and articulated. In other words, the COP sets the 'conditions of possibility' wherein views can be formed. In this sense the COP is all about a 'common picture'.

determine the world through the agency of its peculiar institutional and ultimately discursive practices. If mission effectiveness, survivability, lethality and surprise are to be achieved and maintained by exercising power over an adversary, then this exercise of power must be understood in terms of a struggle. This struggle is manifested in two ways. The first is the obvious struggle materialized as the physical combat with the adversary and the second is the not so obvious struggle over the power of signification.

Dillon's insight, in this context, is revelatory. He writes, "...in the age of information, network and code...the struggle over the power of signification is...the struggle over power. Whoever commands the power of signification embodies power."⁵⁰ By establishing power over signification, in terms of creating a COP, the underlying objective may be understood as being the attempt to standardize a particular texture of language and discourse. We find echoes of this in the world of ICT where the WYSIWYG format is gaining ground faster than ever. WYSIWYG (the acronym stands for 'What You See Is What You Get') is simply the establishment of a 'common operational picture'. The critical element lies in identifying who or what determines what you see and how that determination is made. Recall, in this context, the Derridian insight of the strategic maneuver that reason continually engages in to contain within itself that which lies outside its domain. It, therefore, comes as no surprise that Admiral Cebrowski, who is one of the key architects of NCW, should note the significance

⁵⁰ Michael Dillon, "Intelligence Incarnate: Martial Corporeality in the Digital Age", *Body & Society*, (London: Sage Publications) Vol. 9 (4): 123-147, 2003.

of the migration of the global computing industry to the WINTEL (Windows-Intel) platform and to networked computing. Indeed, he goes further and notes that “information ‘content’ now can be created, distributed, and easily exploited across the extremely heterogeneous global computing environment”.⁵¹ The implications of these examples highlight the ‘world’ that the network creates and embodies. By ‘creating’ the world, then, the network, as we have seen, also establishes the very ‘conditions of possibility’. In other words, the network, by means of a set of discursive practices, aims to create and maintain a set of conditions wherein nothing outside the network should or would be possible.⁵²

It would be an error to assume that these radical developments occur and are occurring only within the US military establishment. In fact, a review of events shows that the impetus for this radical activity first emerged within the commercial sector, a fact which reiterates the blurring of the distinction between the civilian and the military sectors and the frontline/ rearward areas of the battlefield. As we have seen previously, the advent of the Information Age, it is claimed, has altered the nature of the world. Deleuze identifies this radical alteration when he notes the dispersive character of capital in the Age of Information.⁵³ Not surprisingly, commercial organizations, which are driven to protect, expand and maximize profit, have led the way in adopting and deploying

⁵¹ Vice Admiral Arthur K. Cebrowski, (Rtd.) U.S. Navy, and John J. Garstka, “Network-Centric Warfare: Its Origin and Future”, *Proceedings of the Naval Institute*, 124:1 (Jan. 1998): 28-35 Available at <http://www.usni.org/Proceedings/Articles98/PROcebrowski.htm>. Last accessed on July 28, 2004.

⁵² Personal interaction and exchange of emails with Prof. Michael Dillon, Lancaster University, UK. August 4, 2004

⁵³ Gilles Deleuze, *Negotiations*, (New York, NY: Columbia University Press, 1995), p 181.

ICTs given that the shift from the traditional ‘bricks and mortar’ economy to the digital marketplace has changed the way value is created. Our focus on the particularities of value creation is not solely based on the argument that the dynamics of the value creation process are domain independent,⁵⁴ and because of the increasing commonality that is emerging between the worlds of warfare and commerce.⁵⁵ It is also based on the fact that the value creation process points to the rise of particular forms of organizations and consequently of discursive practices.

“Creation of value is at the heart of creating competitive advantage.”⁵⁶ The concept of the value-chain, as described by Michael Porter, consists of the links and processes that transform raw materials (including information) into products that can be measured in terms of their value. Here value is understood as being the positive differential between the selling price and the cost of raw materials taken together with the cost of transforming them into products.⁵⁷ Given that in today’s unfolding digital marketplace, the ‘tempo’ of operations has significantly increased, the time differential between the creation and erosion of value is

⁵⁴ Alberts, Gartska, Stein, *Network-Centric Warfare – Developing and Leveraging Information Superiority*, (Washington, DC: US DoD, CCRP, 2003), p 26.

⁵⁵ It has been suggested that ‘business is not warfare’, but this distinction remains suspect given the extensive cross-pollination of ideas, concepts and operational procedures that takes place between these two domains. Thus both commercial and military operations entail strategizing, attention to logistics, efficient utilization of resources, developing effective chains of command, out-maneuvering competitors etc. For a perspective that maintains that business and warfare are distinct see T. X. Hammes, “War Isn’t a Rational Business”, *Proceedings of the Naval Institute* 124:7 (July 1998): 22-25. For a comprehensive perspective that highlights the meshing of the worlds of technology, including that of business, and warfare see Manuel de Landa, *War in the Age of Intelligent Machines*, (New York, NY: Zone Books, 1991).

⁵⁶ Alberts, Gartska, Stein, *Network-Centric Warfare – Developing and Leveraging Information Superiority*, (Washington, DC: US DoD, CCRP, 2003), p 29.

⁵⁷ Michael Porter, *Competitive Advantage – Creating and Sustaining Superior Performance*, (New York, NY: The Free Press, 1985), pp 33-39.

becoming drastically reduced. This is what Admiral Cebrowski implies when he states that “the new dynamics of competition are based on increasing returns on investment, competition within and between ecosystems, and competition based on time.”⁵⁸ This necessitates, in the words of Hamel and Prahalad, the “reinvention of an entirely new competitive space...[where]...the goal is not to predict *the* future but to imagine *a* future made possible by...creating a compelling view of tomorrow’s opportunities and moving preemptively to secure the future...”⁵⁹ (emphasis in original). The resonance of this with the COP that we have referred to earlier is startling. What Hamel and Prahalad are alluding to (and in the most dynamic of global corporations, for example Microsoft Corp. and Google,⁶⁰ we see this occurring with increasing regularity) is the virtual creation of multiple futures which, it could be added, are (and increasingly would be) enabled and ‘controlled’ by a dense network of cutting-edge technologies which are reflective of the distinct discursive practices that are at work within this emerging competitive space. Significantly, one also notes the direct relationship between the acts of creating (futures) and that of securing (futures), a fact attested

⁵⁸ Vice Admiral Arthur K. Cebrowski, (Rtd.) U.S. Navy, and John J. Garstka, “Network-Centric Warfare: Its Origin and Future”, *Proceedings of the Naval Institute*, 124:1 (Jan. 1998): 28-35 Available at <http://www.usni.org/Proceedings/Articles98/PROcebrowski.htm>. Last accessed on July 28, 2004.

⁵⁹ Hamel & Prahalad, *Competing for the Future*, (New Delhi: Tata McGraw-Hill Publishing Co. Ltd., 2002), pp xi-xii.

⁶⁰ Microsoft currently controls over 80% of the global market share of client-side ‘operating systems’ and of desktop technologies (a fact which is reflected in the number of anti-trust law suits that have been brought against the corporation). Microsoft also dominates the way people use the web, controlling more than 94% of the web browser market. See “Rivals nibble at Microsoft’s IE”, July 12, 2004, *BBC News, UK Edition*. Available at <http://news.bbc.co.uk/1/hi/technology/3886861.stm>. Last accessed on July 28, 2004. Google is the global leader in search engine technologies. The ubiquitous nature of Google is evident in the fact that the word that identifies the corporation is also used as a ‘verb’. Thus, when one searches or is asked to search the World Wide Web, one ‘googles the web’. See Alfred Hermida, “Float offers insights into Google”, April 30, 2004, *BBC News, UK Edition*. Available at <http://news.bbc.co.uk/1/hi/technology/3673157.stm>. Last accessed on July 28, 2004.

to by the investigative projects of Foucault, albeit in the context of the 'disciplinary societies' of the pre-Information Age era.

Collectively then, the discursive practices which are evolving in the space of NCW, manifested by the technologisation of discourse across civil and military boundaries, point to a certain kind of strategizing that is occurring. This, it is suggested, is occurring at multiple levels and simultaneously and is contingent on the phenomenon of networks.

At the edge of chaos...

The theories of complexity and non-linearity claim that they enable us to examine the workings of the natural world understood as a dynamic system. They "show us how dynamic systems...self-organize, how they are closely interrelated, and how they use feedback to regulate themselves."⁶¹ While a detailed examination of these theories and their conclusions falls outside the scope of this study, it may be worthwhile to examine three principal concepts central to them.

1. A phenomenon or a system is considered *complex* if it consists of numerous dimensions, which is indicative of an intricate mesh of inter-twined processes

⁶¹ Pat A. Pentland, "Center of Gravity Analysis and Chaos Theory, or How Societies Form, Function and Fail." Master's Thesis. (Maxwell AFB, AL: School of Advanced Airpower Studies, 1993-94). Quoted in Tom Czerwinski, *Coping with the Bounds – Speculations on Non-Linearity in Military Affairs*, (Washington, DC: US DoD, CCRP, 1998), p 261.

and structures. As a consequence, a high degree of regularity in the dynamics of such a phenomenon or a system is discernable but up to a point.⁶²

2. When phenomena or systems display an “asymmetrically disproportionate”⁶³ dynamics, which indicates that the outputs of the system or phenomenon are disproportionate to the inputs, they are understood as being *non-linear*. This is contra the nature of linear phenomena or systems where the outputs are proportionate to the inputs.⁶⁴
3. A system or phenomenon is considered as being *chaotic* when it displays both non-linearity and when variations of ‘initial conditions’ have massive non-repetitive consequences on downstream effects (in other words, displaying the ‘butter-fly effect’). This seriously impedes, and in most cases denies, the ability to deploy predictive tools to model the behavior of such phenomena or systems.

Also fundamental to the understanding of complexity and non-linearity are complex adaptive systems, which are said to be “the engines that drive non-linearity”.⁶⁵ Complex adaptive systems are “dynamic systems (which) are able to adapt and change within, or as part of a changing environment... (it is) ...a

⁶² Roger Beaumont, *War, Chaos and History*, (Westport, CT: Praeger Publishers, 1994), p xiv. See also Colin S. Gray, *Strategy for Chaos- Revolutions in Military Affairs and The Evidence of History*, (London, UK: Frank Cass Publishers, 2002), p 104.

⁶³ N. Katherine Hayles, *Chaos Unbound: Orderly Disorder in Contemporary Literature and Science*, (New York, NY: Cornell University Press, 1990), p 11.

⁶⁴ Coventry & Highfield, *Frontiers of Complexity – The Search for Order in a Chaotic World*, p 121.

⁶⁵ Tom Czerwinski, *Coping with the Bounds – Speculations on Non-Linearity in Military Affairs*, (Washington, DC: US DoD, CCRP, 1998), p 12.

system closely linked with all other related systems making up an eco-system.”⁶⁶

These systems display a number of properties that encompass, among other things, the three points mentioned above. Notably, they also display the properties of aggregation, flows (alternatively, circulation) and diversity. Simply put, the property of aggregation refers to the intricate behaviors resulting from the aggregate interactions of lesser (or smaller) agents. Thus, in a complex adaptive system, the sum of the parts is not equal to the whole. The property of ‘flows’ is best understood in terms of the ‘multiplier effect’ and ‘recycling’. The ‘multiplier effect’ is a “disembodied derivative” discernable at macro-levels of observation and to which a simple cause-effect relationship cannot be applied. In fact, at the micro-level, the ‘multiplier-effect’ is, for the most part, invisible. ‘Recycling’ is the movement and behavior of a diverse set of agents whose aggregate is greater than the sum of the agents. Together then, the ‘multiplier-effect’ and ‘recycling’ (i.e., the property of flows or circulation) underscore the adaptiveness of complex adaptive system. This is because of the inherent dependency of the ‘multiplier-effect’ and of ‘recycling’ on the agents that enable these processes. This, in turn, is directly related to the diversity of the agents that are present within the complex adaptive system. The key feature of these agents is that they are entirely novel, which in turn ensures that complex adaptive systems do not stagnate. They are constantly in a state of evolution and emergence. Moreover, these agents are dispensable and their dispensability remains contingent on their being able to maintain their evolutionary stability within the complex adaptive system. Their

⁶⁶ James Moffat, *Complexity Theory and Network-Centric Warfare*, pp 50-51

failure to do so ensures their removal and their replacement by a 'different' yet similar agent better adapted to achieve the evolving levels of stability.⁶⁷

From this two inferences can be drawn. First, complex adaptive systems are open systems. They share an intricate and delicate relationship with a host of other systems all of which collectively constitute a particular eco-system. Moreover, particular eco-systems are open as well. They too share economies of relations with other eco-systems thus rendering a rich lattice-like texture to what is called the 'global' system. And second, the inter-relationships between agents within complex adaptive systems are critical in generating the inherent dynamism of such systems. This, in light of Lorenz's 'butter-fly effect', has a cascading effect on the system, which not only increases the complexity and non-linearity of the system, but also enhances its adaptive ability to local and global environments. At the macro-level therefore, the global system has come to be conceptualized as a gigantic complex adaptive system, which is constantly evolving and emerging.⁶⁸

It is this deep and intricate inter-twinning of the infinite relationships that characterize complex adaptive systems and the eco-systems of which they are a part of that gives a materiality to the complexity and non-linearity of the natural

⁶⁷ Tom Czerwinski, *Coping with the Bounds – Speculations on Non-Linearity in Military Affairs*, pp 12-21. See also Mitchell M. Waldrop, *Complexity: The Emerging Science at the Edge of Order and Chaos*, and Russell Ruthen, "Adapting to Complexity", *Scientific American*, Vol. 268 Issue 1, Jan. 1993 pp 130-140.

⁶⁸ Nietzsche's words, in this context, are hauntingly reminiscent – "And do you know what "this world" is to me? This world: a monster of energy, without beginning, without end; a sea of forces flowing and rushing together, eternally changing, eternally flooding back, with tremendous years of recurrence, with an ebb and flow of its forms..." Friedrich Nietzsche, *The Will to Power*, Ed. & Trans. Kaufmann & Hollingdale, (New York: Vintage Books, 1968) p 550 # 1067.

world. This, however, is not the same as identifying the natural world as being random.⁶⁹ Thus, one can say, “complexity lies somewhere between order and disorder...some characteristics of systems...are neither highly ordered nor completely random.”⁷⁰ Diagrammatically, this state of affairs can be represented as below:

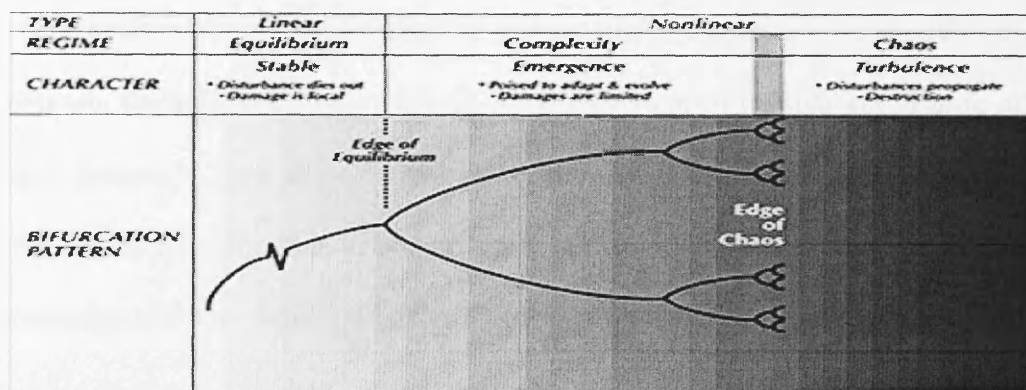


Figure 3: At the Edge of Chaos

Source: Tom Czerwinski, *Coping with the Bounds – Speculations on Non-Linearity in Military Affairs*, (Washington, DC: US DoD, CCRP, 1998), p 40. Modified by Author.

Complexity and Non-Linearity in the context of War(fare)

As we have seen, in addition to asserting that the “logic of war in the abstract, with its limitless escalation of cost and effort, contradicts human experience...,”⁷¹ Clausewitz also insisted that war is “not the action of a living

⁶⁹ Glenn E. James, Maj. USAF, *Chaos Theory – The Essentials for Military Applications*, The Newport Papers, Number 10, (Newport, RI: Naval War College, 1996), pp 2-3.

⁷⁰ George Johnson, “Researchers on Complexity Ponder What It’s All About”, *New York Times*, May 06, 1997. Quoted in Tom Czerwinski, *Coping with the Bounds – Speculations on Non-Linearity in Military Affairs*, (Washington, DC: US DoD, CCRP, 1998), p 24.

⁷¹ Alan D. Beyerchen, Clausewitz, Nonlinearity, and the Unpredictability of War, *International Security*, 17:3 Winter, 1992 pp 59-90

force upon a lifeless mass (total nonresistance would be no war at all) but always the collision of two living forces.”⁷² For Clausewitz, war was a dynamic (and consequently non-linear) ‘interaction’ between two or more agents, which was marked by fluidity and a condition of flux. Further, Clausewitz noted the variability of the strength and speed of the conduct of war – tempo of operations - and the expenditure of energy that such actions entailed. Recall here the characteristics of the complex adaptive system. We had identified the ‘interaction’ between the agents within a complex adaptive system as being a key feature of such systems. Clausewitz’s martial formulations, while bereft of the advantages that accrue to us in terms of our exposure to the ‘new sciences’, bear a striking similarity with the complex adaptive systems as we understand them today.

Another important element of Clausewitz’s theory of war, which we have already encountered, was the concept of *Friktion* regarding which he had famously said...

...Everything in war is simple, but the simplest thing is difficult. The difficulties accumulate and end by producing a kind of friction that is inconceivable...this friction, which cannot, as in mechanics be reduced to a few points, is everywhere in contact with chance, and brings about effects that cannot be measured...⁷³

This emphasis on ‘friction’ (*Friktion*), as we have seen, was placed by Clausewitz at two levels. At one level, it was recognized in context of one’s own army and in

⁷²Clausewitz, *On War*, p 77.

⁷³ Clausewitz, *On War*, p 119.

the *conduct* of war. At another level, it was recognized at the macroscopic level of war itself. This latter recognition of friction - at the general level of war – we suggested was indicative of Clausewitz’s recognition of the subtle and immersive condition of complexity and non-linearity that contextualized the problematization and theorization of life, war and the conduct of war.⁷⁴

While examples of commanders being attentive to the friction of the battlefield are littered across the annals of history, one of the more recent and explicit instances of ‘how’ to operate in conditions of complexity and non-linearity – specifically on the battlefield - is visible in the German school of maneuver theory. Born out of the need to break the deathly stalemate that prevailed at the Western Front during World War I, German military thinkers developed the doctrine of infiltration tactics.⁷⁵ This represented an almost philosophical solution to the problems of the stalemate imposed by trench warfare.⁷⁶ The full implications of this doctrinal change, however, only became visible in the Second World War where, by combining the tactics of infiltration with the developing technologies of the tank and combat aircraft, the Germans

⁷⁴ Barry Watts, *Clausewitzian Friction and Future War*, McNair Paper 52, Revised July 2000. Institute for National Security Studies, (Washington, DC: National Defence University, 1996), p 41 (PDF Version) Available at <http://www.ndu.edu/inss/McNair/mcnair52/mcnair52.pdf>. Last accessed on July 28, 2004. Clausewitz’s emphasis on the specific context of friction (i.e. on one’s own army) and its reduction has been criticized by John Boyd. It seems that Boyd’s primary accusation was levied on the basis of Clausewitz not emphasizing on maximizing the destabilizing effects of friction on one’s adversaries. Boyd explored that option in his famed OODA (Observation, Orientation, Decision, Action) Theory. See John R. Boyd, *Patterns of Conflict*, Briefing, April/ June/ July 1979, Slide 24. Slide 41 in Dec. 1986 Version of Briefing. Available at http://www.d-n-i.net/second_level/boyd_military.htm. Last accessed on July 28, 2004.

⁷⁵ It is interesting to note that the infiltration tactics devised by the Germans during the last stages of the First World War did produce some spectacularly positive results. However, it was too late to influence the course of the war.

⁷⁶ Robert Leonhard, *The Art of Maneuver – Maneuver-Warfare Theory and AirLand Battle*, (New York, NY: Ballantine Books, 1991), p 49.

were able to pioneer a method of war that appeared to thrive on the very edge of chaos, i.e., the space where complexity and non-linearity hold sway.

Recognizing the destabilizing factors involved in operating within such a space, the German doctrinal thinkers devised and combined three operational conditions. The first was the technique of *Auftragstaktik* (literally ‘mission tactics’), which involved creating mission-type orders.⁷⁷ This gave lower echelon commanders and troops the freedom and flexibility to devise the particular methods by which their assigned tasks could be carried out with the higher level commanders restricting themselves to exercising ‘directive control’ only. The second technique was the identification of the *Schwerpunkt*. “Originally this term identified the point along the enemy lines at which the attack would focus for a breakthrough... (but it also implied)...the object of focus for the efforts of all subordinate and supporting troops.”⁷⁸ The third technique was the identification and exploitation of enemy weaknesses while avoiding their strengths, better known as the ‘expanding torrent’ method.⁷⁹ Taken together these techniques (commonly recognized as *blitzkrieg* or ‘lightning war’) were geared to exploit

⁷⁷ It is pertinent to note that *Auftragstaktik* was not a wholly new concept to the doctrinal planners of the German defence establishment during the First World War. Its origins can be found in the Prussian military reforms beginning in 1808, following Prussia's disastrous defeats by Napoleon. See H. W. Koch, *A History of Prussia*, (New York, NY: Longman, 1978), pp 180-187.

⁷⁸ Robert Leonhard, *The Art of Maneuver – Maneuver-Warfare Theory and AirLand Battle*, p 51.

⁷⁹ This concept found its formal articulation in the works of Liddell-Hart, though it must be said that ancient philosophers of war, especially Sun Tzu, also propounded this concept. See B. H. Liddell-Hart, *Strategy*, 2nd Revised Edition, (New York, NY: Meridian, 1991), p 335. Here Liddell-Hart refers to the exploitation of the “line of least resistance.” See also B. H. Liddell-Hart, “The Man-in-the-Dark Theory of Infantry Tactics and the Expanding Torrent System of Attack”, *Journal of the Royal United Service Institution*, Vol. LXVI, No. 461, Feb. 1921.

what Col. John Boyd later referred to as the OODA (Observation, Orientation, Decision, Action) cycle of the enemy.⁸⁰

Boyd's OODA Loop was instrumental in highlighting the iterative nature of war "It recognize(d) that the result of actions (was) not just the direct effect on the adversary, but his adaptation to our actions, and his subsequent actions (or at least our observation of them) become part of the next input."⁸¹ The resonance of this with the original formulation of Lorenz's 'butter-fly effect' is not accidental. This sensitivity to initial conditions that was so starkly manifested in the OODA Loop was nothing less than the growing recognition and reaffirmation of the original Clausewitzian identification of the immersive context presented by complexity and non-linearity. Boyd's OODA Loop, which elegantly identified this state of affairs, thus pointed to not simply the fact that warfare – the conduct of war - was, in all respects, a complex and non-linear activity, but also that 'war' itself was a complex and non-linear phenomenon. This recognition led to radical changes being introduced in terms of force-structure and planning and

⁸⁰ John R. Boyd, *Patterns of Conflict*, Briefing, April/ June/ July 1979, Slide 24. Slide 41 in Dec. 1986 Version of Briefing. Available at http://www.d-n-i.net/second_level/boyd_military.htm. Last accessed on July 28, 2004. A significant modification to Boyd's OODA Loop was made by Joel S. Larson. Larson's model was the SCDA (Sense, Compare, Decide, Act) Cycle, which makes allowance for the function of intelligence in his conception of "command and control as a process in which different components have different roles while operating as parts of a larger system." See George E. Orr, Maj., *Combat Operations C3I: Fundamentals and Interactions*, (Maxwell AFB, AL: Air University Press, 1983), pp 23-27. See also Kenneth Allard, *Command, Control, and the Common Defence*, Revised Edition, (Washington, DC: US DoD, CCRP, 1996), p 155. See also Jeffrey L. Cowan, Maj. (USAF) "From Air Force Fighter Pilot to Marine Corps Warfighting: Colonel John Boyd, His Theories on War, and their Unexpected Legacy", Master's Thesis, United States Marine Corps Command and Staff College, Marine Corps Combat Development Command, (Quantico, VA: Marine Corps University, 1999-2000). Available at http://www.defense-and-society.org/fcs/boyd_thesis.htm#ex%20summ. Last accessed on July 28, 2004.

⁸¹ Linda P. Beckerman, "The Non-Linear Dynamics of War", *Science Applications International Corporation*, April 20, 1999. Available at http://www.belisarius.com/modern_business_strategy/beckerman/non_linear.htm. Last accessed on July 28, 2004.

organizational re-orientations that would make the necessary instruments of war more responsive to the inherent instability of war and the battlefield.

The interesting thing to note in the original formulation of Boyd's OODA Loop is the role of information. While ostensibly the OODA Loop was concerned with the issue of 'directive control', which was, in the first instance, a tactical decision-making model,⁸² a closer examination, however, suggests that the generative principle of the OODA Loop is 'information', a point which Boyd himself noted.⁸³ The development of the theories of information and cybernetics confirm this. Claude Shannon's work in the field of Information Theory, in this context, is illustrative. The revolutionary elements of Shannon's contribution was the invention of the source-encoder-channel-decoder-destination model,⁸⁴ a process-flow which we find extensively used in the work of Norbert Wiener who, during the Second World War, worked on guided missile technology, and studied how sophisticated electronics used the 'feedback principle', which resulted in the development of the field of Cybernetics.⁸⁵ The criticality of this, however, remained underestimated and the propensity for using the OODA Loop simply as a tactical instrument on the battlefield remained in vogue for a while. To that limited extent, the increasingly complex and non-linear character of war was

⁸² Robert Leonhard, *The Art of Maneuver – Maneuver-Warfare Theory and AirLand Battle*, p 49.

⁸³ Gary A. Vincent, 1st Lt., USAF, "A New Approach to Command and Control: The Cybernetic design", *Airpower Journal*, Summer 1993. Available at <http://www.airpower.maxwell.af.mil/airchronicles/api/vincent.html>. Last accessed on July 28, 2004.

⁸⁴ See John Robinson Pierce, *An Introduction to Information Theory*, 2nd Revised Edition, (New York, NY: Dover Publications, 1980). See also "The Significance of Shannon's Work", Available at <http://cm.bell-labs.com/cm/ms/what/shannonday/work.html>. Last accessed on July 28, 2004.

⁸⁵ See Internet History – Norbert Wiener, Available at http://livinginternet.com/i/ii_wiener.htm. Last accessed on July 28, 2004. See also N. Katherine Hayles, *How We Became Post-Human: Virtual Bodies in Cybernetics, Literature and Informatics*, (Chicago, IL: Univ. of Chicago Press, 1999), pp 84-112.

recognized. The tendency to quantify the battlefield and of war, however, remained paramount.⁸⁶ This paradox of the gradual recognition of the increasing importance and relevance of information, its constantly changing dynamics and the tendency to quantify information using statistical and systems-theoretic models was reflected in both the organizations responsible for the conduct of war and also in the designing of the pathways through which information would circulate.

At this point, two problems emerged. The first was the problem associated with quantifying information thus making an artifact of something that is inherently dynamic. The second problem related to the diagramming of the 'network' through which information is expected to flow. With the problems thus stated, the task of fashioning adequate responses to them began to take shape. While the theories of complexity and non-linearity provided the context to the statement of the problems, the 'network' concept provided the organizing principle around which the some of the still nascent responses have emerged.

On Networks

Two parallel events catch our attention as we sift through the linear history of the ARPA and early network computing. The first was the assignment of Dr. J.C.R. Licklider to the IPTO and the second was the work of Paul Baran within

⁸⁶ Martin van Creveld, *Command in War*, p 3 and p 240 respectively. See also S. Zuckerman, "Judgment and Control in Modern Warfare", *Foreign Affairs*, Vol. 40. Jan. 1962. pp 196-213.

the RAND Corporation. Licklider, with his keen perception of the sense of community that existed between users of the first time-sharing computer systems, began to think about a 'network' being established between the group of computer specialists who had gathered around at the IPTO. Licklider's premise was that "men will be able to communicate more effectively through a machine than face to face."⁸⁷ Uncannily, he nicknamed this 'network' of computer specialists as the 'Intergalactic Network'.⁸⁸ Simultaneously, a group of scientists from MIT (Massachusetts Institute of Technology) and the British National Physical Laboratory were working on the dynamics of networks. Their primary motivation was to devise more efficient methods by which the expensive computers of the time could share resources. This emphasis on 'communication' led, by 1969, to the linking of four computers across the US located at the University of California at Los Angeles and Santa Barbara, University of Utah and Stanford University. This was known as the ARPANET, which was the original seed of today's Internet.⁸⁹

The potential threat of a surprise Soviet nuclear offensive had, simultaneously, spurred the US Air Force to fund, among other things, a research project to investigate the building of a schematic design for a national

⁸⁷ J.C.R. Licklider, "The Computer as a Communication Device" and "Man Computer Symbiosis" in *In Memoriam: J.C.R. Licklider 1915-1990*, (Palo Alto, CA: Systems Research Center), August 1990. Available at <ftp://gatekeeper.research.compaq.com/pub/DEC/SRC/research-reports/SRC-061.pdf> Last accessed on July 28, 2004.

⁸⁸ *Ibid.*

⁸⁹ Mark Buchanan, *Small World – Uncovering Nature's Hidden Networks*, p 75.

communications network, which could survive such an attack.⁹⁰ In 1964, Paul Baran, working from within the RAND Corporation, published a series of papers which addressed this problem.⁹¹ Baran's proposal stated the principles of a new network which was to be built for maximum robustness and flexibility. This new network would have no central authority and Baran referred to this as a 'distributed communications network'.⁹² Baran recognized that the communications systems of the day were heavily dependent on centralized control centers, which made them extremely vulnerable to interdiction. Thus, an attack on any one of the centralized control centers would bring down the network.⁹³ Baran's idea was to create a web of computers and/ or of other communication devices which would be linked by transmission lines and which would have no centralized control centers. He identified three generic types of networks as depicted by the figure below.

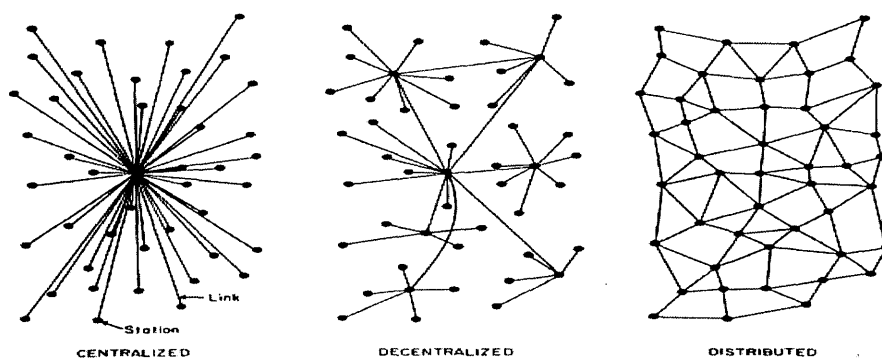


Figure 4: The Three Types of Networks
Source: Paul Baran, "On Distributed Communications: Introduction to Distributed Communications Network", RAND Memorandum RM-3420-PR, August 1964.

⁹⁰ Ibid p 73. See also "U.S. Nuclear History: Nuclear Arms and Politics in the Missile Age, 1955-1968", Digital National Security Archive, Available at http://nsarchive.chadwyck.com/nh_essay.htm. Last accessed on July 28, 2004.

⁹¹ Ibid

⁹² Paul Baran, "On Distributed Communications: Introduction to Distributed Communications Network", RAND Memorandum RM-3420-PR, August 1964. Available at <http://www.rand.org/publications/RM/RM3420/>. Last accessed on July 28, 2004.

⁹³ Mark Buchanan, *Small World – Uncovering Nature's Hidden Networks*, p 74.

He noted that a centralized network could be destroyed by targeting its node while a decentralized network, despite being more resilient than a centralized network, could also be brought down by targeting a finite number of nodes. The distributed network, on the other hand, given the absence of nodes of critical importance, was the most resilient of the three network designs. This he attributed to element of ‘redundancy’ built into the distributed network. Redundancy, in this context, refers to ‘the average number of links per element’ (alternatively, node).⁹⁴ Baran summarized the future developments of networks in the following words:

We will soon be living in an era in which we cannot guarantee survivability of any single point. However, we can still design systems in which system destruction requires the enemy to pay the price of destroying n of n stations. If n is made sufficiently large, it can be shown that highly survivable system structures can be built—even in the thermonuclear era. In order to build such networks and systems we will have to use a large number of elements. We are interested in knowing how inexpensive these *elements* may be and still permit the *system* to operate reliably. There is a strong relationship between element cost and element reliability. To design a system that must anticipate a worst-case destruction of both enemy attack and normal system failures, one can combine the failures expected by enemy attack together with the failures caused by normal reliability problems, provided the enemy does not know which elements are inoperative. Our future systems design problem is that of building very reliable systems out of the described set of unreliable elements at lowest cost. In choosing the communications links of the future, digital links appear increasingly attractive by permitting low-cost switching and low-cost links.⁹⁵

⁹⁴ Ibid.

⁹⁵ Paul Baran, “On Distributed Communications: Introduction to Distributed Communications Network”, RAND Memorandum RM-3420-PR, August 1964. Available at <http://www.rand.org/publications/RM/RM3420/>. Last accessed on July 28, 2004.

But Baran's work had another rather significant result. He recognized that the distributed network would also need to have an 'intelligence' to survive a massive attack. He conceptualized the decentralized network as having no preset path for messages to travel. Instead, they would rely on computers to 'find' the 'most optimal route' to their destination. This, Baran contended, would be accomplished by each message being broken into a number of 'blocks' and having computers located at each node which would maintain a 'routing table'. The 'routing table' would record at what speed recently sent message-blocks reached their destination. The computers would thus be able to 'make intelligent decisions' by rerouting messages, in their block forms, along pathways that would bypass the nodes that an enemy attack had destroyed. Once the message-blocks reached their destinations, they would be reassembled and thus the message would be considered transmitted.⁹⁶ In net effect, what Baran was suggesting was that the network would be comprised of a number of unmanned digital switches, which would possess a 'self-learning' capability within a changing environment. The premise of Baran's speculations and later work was starkly reminiscent of the complex adaptive systems that we have had occasion to examine earlier.

⁹⁶ "Paul Baran and the Origins of the Internet", RAND Corporation. Available at <http://www.rand.org/about/history/baran.html>. Last accessed on July 28, 2004. It should be noted that it was Donald Davies, a scientist working independently of Baran at the British National Physical Laboratory, who realized that it was inefficient for a computer to send an entire file to another computer in an uninterrupted stream of data. So, he conceived the use of a purpose-designed network employing packet switching in which the stream of bits is broken up into short messages, or 'packets,' that find their way individually to the destination, where they are reassembled into the original stream. The term 'packet switching' is said to have originated from the work done by Davies. See "Data Pioneer Donald Davies Dies", Internet Society, Thurs. Nov. 15, 2001. Available at <http://www.isoc.org/internet/history/davies.shtml>. Last accessed on July 28, 2004 See also See "Data Pioneer Donald Davies Dies", Internet Society, Thurs. Nov. 15, 2001. Available at <http://www.isoc.org/internet/history/davies.shtml>. Available at <http://www.rand.org/publications/RM/RM3103/>. Last accessed on July 28, 2004.

In brief then, we find that the development of the network (characterized by the ARPANET and in its expanded form, the Internet) was based on two critical concepts. The first was to understand the issue of connectivity as being a lattice of links which would have no singular or critical element or node and wherein messages would be broken into smaller blocks or packets. The second was to recognize that the key to the survivability of the network depended on its having an integral machinic or 'native intelligence' which would enable the network to adapt to changes in the environment of the network (such as the breakdown or destruction of any node within the network) without compromising the core efficiency of the network. However, as the original ARPANET expanded into the Internet, a few discrepancies were found in the original formulations as suggested by Baran. In 1998, by sending out a large number of information-packets, a topology of the Internet was created and it was found that unlike Baran's speculation of decentralized and distributed networks that would have no centralized nodes or elements, the Internet had organized itself into a 'hierarchical network' that Baran had originally dismissed in favour of the distributed network.⁹⁷ The Internet did not seem to conform to the accepted model of random connectivity. The topology indicated that the Internet had yielded a connectivity map that was, as Albert-Laszlo Barabasi called it, scale-free.⁹⁸ Simply put, scale-free networks include many 'very connected' nodes or hubs of connectivity that

⁹⁷ Mark Buchanan, *Small World – Uncovering Nature's Hidden Networks*, pp 80-82. The original 'mapping' of the Internet was done by Cheswick and Birch of Bell Laboratories and Carnegie Mellon University respectively.

⁹⁸ William J. Reed, "A Brief Introduction to Scale Free Networks", Dept. of Mathematics and Statistics, Univ. of Victoria, Canada. Available at http://www.math.uvic.ca/faculty/reed/draft_1.pdf. Last accessed on July 28, 2004.

shape the way the network operates. The ratio of very connected nodes to the number of nodes in the rest of the network remains constant as the network changes in size.⁹⁹ Barabasi's investigations were even more startling as they dealt with the World Wide Web (W3), which unlike the Internet is not hardware-based. The W3, which is a vast network of web-pages (essentially software) connected by hyper-links hosted on the hardware-based Internet, is growing at an exponential rate.¹⁰⁰ From this a number of inferences can be drawn.

1. In keeping with the core intent that was first expressed by Licklider, networks were and remain centered around the principle of communication. This is applicable to the more hardware-based network, such as the Internet, and for the W3, which is primarily a software manifestation.
2. Networks are able to maintain their stability and monitor themselves by a process of self-organization and self-generation. In other words, networks work on the basis of an 'insatiable need'.¹⁰¹
3. Networks depend on multiple feedback loops, which are critical in maintaining their condition of equilibrium. In addition, the time taken by the

⁹⁹ Jan Matlis, "Scale-Free Networks", *Computer World*, Nov. 2002. Available at <http://www.computerworld.com/networkingtopics/networking/story/0,10801,75539,00.html>. Last accessed on July 28, 2004. See also Albert-Laszlo Barabasi, *Linked – The New Science of Networks*, (Boulder, CO: Perseus Books, 2002).

¹⁰⁰ Mark Buchanan, *Small World – Uncovering Nature's Hidden Networks*, p 84.

¹⁰¹ Steven Shaviro, *Connected, or what it means to live in the network society*, (Minneapolis, MN: Univ. of Minnesota Press, 2003), pp 10-11.

feedback to loop through its 'circuit' is a critical factor in determining the effectiveness of the loop and its 'learning capability'.

4. Networks organize themselves around 'nodes or hubs of connectivity', which are centers with a high density of links.

Consequently, we can identify a 'new' trinity arising in the Age of Networks – Speed, Sharing and Decentralization - underpinned by the 'native intelligence' of networks originally propounded by Baran.¹⁰² The conceptual foundations of NCW, thus, lies not so much on the hardware aspects of the network, rather, they are based on this trinity that we now see emerging from the rise of networks in the Information Age. The rise of networks also points to one other singular fact. Grosch's Law, which states, that doubling the cost of a computer results in multiplying its computing power four-fold, has now been inverted.¹⁰³ Consequently, by 'distributing' (alternatively decentralizing) and sharing tasks, smaller computers and work-stations, organized as clusters, have been able to perform tasks that were limited to high-end 'super-computers' at a much lower cost than hitherto possible.¹⁰⁴ Collectively, the implications for warfare, as manifested in the form of NCW, are immense.

¹⁰² This is a 'play' on the classical Clausewitzian trinity. Clausewitz defined the components of the trinity as (1) primordial violence, hatred, and enmity; (2) the play of chance and probability; and (3) war's element of subordination to rational policy. See Clausewitz, *On War*, p 89. See also Bassford and Villacres, "Reclaiming the Clausewitzian Trinity", in *Parameters*, Journal of the US Army War College, Autumn 1995.

¹⁰³ Martin Libicki, *The Mesh and the Net – Speculations on Armed Conflict in a Time of Free Silicon*, p15.

¹⁰⁴ A good example of this is the PARAM Padma 'super-computer' designed by C-DAC of India. It is a cluster of 62 4-way, IBM pSeries P630 nodes, interconnected through a high performance System Area

On Netwars

'Command' (and Control) has always been the most complex and critical of military functions. It is a function "that has to be exercised, more or less continuously, if the army is to exist and to operate."¹⁰⁵ In this connection, it is interesting to note that the more familiar C2 designation (Command and Control), as we know of it today, was not used until the end of World War II.¹⁰⁶ There are two possible explanations for this. "One argues that it (C2) derives from the proposition that 'one commands men, while one controls machines'...the other explanation suggests that when a situation reaches a certain level of complexity (or chaos), people must concentrate on control."¹⁰⁷ While numerous authors and commentators have offered their individual perspectives on this baffling phenomenon, suffice it to say that the marriage between the command function and the control function summarizes the totality of activities that a military commander must engage in. It encompasses (1) Combatant Command (COCOM), (2) Operational Command (OPCOM) and (3) Tactical Command (TACOM).¹⁰⁸

The common *loci* that bind these three activities can be listed as under:

1. Information Acquisition
2. Information Analysis

Network. See C-DAC Official Site. Available at <http://www.cdacindia.com/html/ctsf/padma/padma500.asp>. Last accessed on July 28, 2004.

¹⁰⁵ Martin van Crevald, *Command in War*, p 5.

¹⁰⁶ Alberts & Hayes, *Command Arrangements for Peace Operations*, The Center for Advanced Concepts and Technology, Institute for National Strategic Studies (Washington, DC: National Defence University Press, 1996), p 6.

¹⁰⁷ Ibid pp 6-7.

¹⁰⁸ Ibid p 9.

3. Decision-making
4. Information Dissemination
5. Feed-back reception

The US military experience in Vietnam, in this context, is instructive. Despite developing and deploying one of the most sophisticated communications and command and control networks, the US military command floundered. The problem, when analyzed, pointed to the fact that while the sophisticated networks operated to their peak, the benefits derived from them were poor due to, among other things, the centralizing tendency that was prevalent in the US military establishment of the day.¹⁰⁹ Aside from the fact that the US military had deployed a conventionally structured force to combat a patently asymmetric enemy, the friction of war ensured that Murphy's Law applied, more often than not, to the C2 infrastructure thus resulting in mounting difficulties with communicating information to people at a variety of levels along the command chain. The lesson learnt was that when "dealing with a battlespace permeated with fog and needing to develop plans that must survive the worst of Murphy"¹¹⁰, a radically different methodology would have to be developed which would ensure a drastic reduction, if not the elimination, of the fog of war.

The emergence of low-cost computing and increasingly robust networking capabilities opened up a number of alternatives which has enabled the

¹⁰⁹ Martin van Crevald, *Command in War*, p 258.

¹¹⁰ Alberts, Gartska, Stein, *Network-Centric Warfare – Developing and Leveraging Information Superiority*, p 72.

reconceptualization of the C2 function. Thus, for example, while traditionally, the C2 function was concerned with the management of forces and assets, sophisticated networking capabilities have allowed for the management, in a decentralized manner, of the battlespace within which the management of information has taken precedence over all other activities. The management of the battlespace is an interesting development in the NCW context. It is not merely limited to the management of one's own forces. It also includes the management of adversaries and allies in terms of their perceptions and actions. Taking the battlespace management concept even further, networking capabilities have also enabled the conceptualization of more than one battlespace within a single theatre of operations. These developments are based on the perception that the power coefficient or multiplier is positively affected by the effectiveness of linking mechanisms and processes.¹¹¹ As a consequence, the traditional C2 function, which was executed within a hierarchical structure, is now being increasingly (re) conceptualized as a decentralized and contingent structure, which is capable of forming, dissipating and re-forming as per situational requirements. The contingent nature of the emerging networked C2 structure warrants a brief discussion, for it is here that the key concept of NCW is highlighted.

Given that the volume and content-richness of information on the modern-day battlefield has exponentially increased, proponents of NCW have contended that there is an overriding need to configure...

¹¹¹ Ibid p 92.

...a set of battlespace entities and a set of interconnections that can take full advantage of the increased amount of information available, turn this information into knowledge, and generate increased combat power. In other words, leverage shared battlespace awareness to allocate, assign, and employ assets and then modify these allocations, assignments, and employments as awareness of the situation changes.¹¹²

The overt intent, therefore, would be to achieve battlefield results which approach a maximum optimal level without experiencing the travails of a centralized C2 structure. Further, the objective would be to ensure that such achievements are marked by an inherent flexibility in terms of force design, deployment and ultimately of the intended effects of such deployments. To be able to achieve this, battlespace entities would be comprised of actors who, collectively and individually, would be able to sense, decide and act. To be able to maintain cohesion within the battlespace entity, the interconnectedness of its constituent actors would thus be of paramount importance. However, the precise configuration of the interconnectedness between the actors would not be predetermined. This indeterminacy of the interconnectedness of the elements of the battlespace entity would impart a very high degree of flexibility in the actions of the battlespace entity. The point to be noted in this conceptualization of the battlespace entity is its contingent nature. The individual attributes and functional abilities of the battlespace entity would be appropriately highlighted as per particular situational requirements.¹¹³

¹¹² Ibid p 115.

¹¹³ Ibid p 116.

Recall in this context Baran's conceptualization of the 'native intelligence' of distributed networks. Baran had theorized that in the event of an attack on the network and the destruction of a number of its nodes, the network (by means of computers which would maintain their individual 'routing tables'), would be able to direct and redirect the traffic of messages in their 'block' or 'packet' form by choosing the optimal flow-path. In other words, save a complete destruction (which, it should be noted, is hypothetically possible), the network would self-synchronize to contend with emergent conditions. If one understands the functional flexibility and the sensitivity to the external (and internal - based on the feedback loops) conditions of the constituent elements of a battlespace entity as being reflective of the 'native intelligence' of the network of the agents within the battlespace entity, the similarity between the behaviour of distributed networks and the battlespace entities is striking. . It is also indicative of the 'algebra of need' that is endemic in the networked phenomenon.¹¹⁴ One could say that the 'native intelligence' of networks computes and re-computes, *ad infinitum*, this 'algebra of need' (in terms of information acquisition, processing and dissemination), which sustains the integrity of the network, but not necessarily its structure, which co-evolves in tandem with its constantly changing environment. Thus, networks are able to maintain and regulate themselves. More importantly, in the context of the 'algebra of need', networks also are also able to - indeed compelled to - expand infinitely.

¹¹⁴ Steven Shaviro, *Connected, or what it means to live in the network society*, p 11.

Further, it is important to note that we are not referring to a single battlespace entity. As conceptualized by the leading NCW theorists, there would be a multitude of battlespace entities which would 'lie dormant' in the global battlespace and which, with the emergence of particular situations, would become active. This, of course, implies that individual battlespace entities would also be seamlessly interconnected between themselves, in a 'plug-and-play' fashion, which in turn would enable the gaining of a clear picture of the situational requirements. The operational activities of an individual battlespace entity and how they collectively contribute to the depiction of a comprehensive situational awareness are depicted in the diagram below.

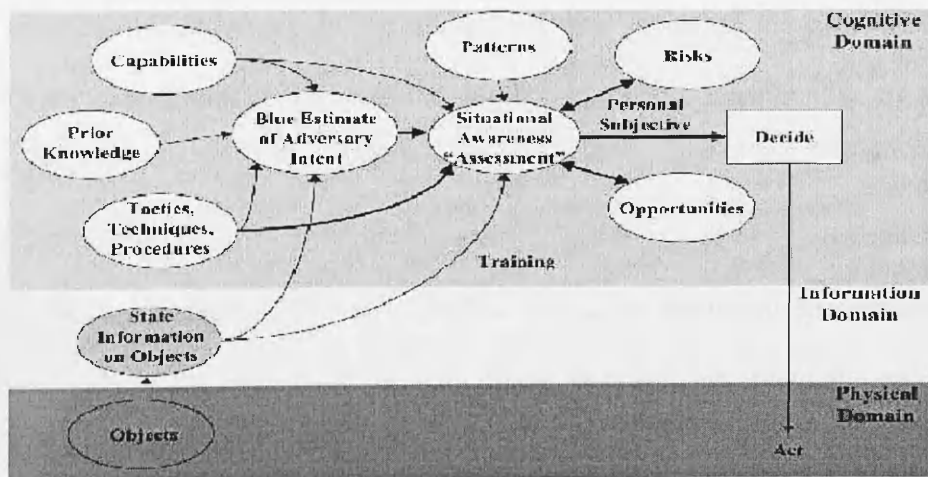


Figure 5: Activities of Battlespace Entities in the context of 'shared awareness'
 Source: Alberts, Gartska, Hayes, Signori, *Understanding Information Age Warfare*,
 (Washington, DC: US DoD, CCRP, 2002), p 124.

From this we can infer that a collection of such battlefield entities gives rise to a lattice of networks which aims to cover the entire battlespace. The network that the proponents of NCW speak of is, thus, more a mesh of networks rather than a

single network. The key issue, however, is not the battlespace entities *per se*, but the links between the actors of a battlespace entity and the links between battlespace entities, which allow for a smooth and seamless interconnection resulting in a heightened degree of awareness of the battlespace.¹¹⁵ Collectively, these links would be instrumental in forming a topology of the battlespace which would be comprehensive (in the sense of spanning the information, cognitive and physical domains) and, more importantly, dynamic. In other words, under optimal conditions, nothing would lie outside the networked battlespace. The pervasiveness of this is heightened even more if we factor in the emergence and viral spread of mobile computing and wireless networks. Indeed, the advent of wireless networking has created a situation where ‘total immersion’ has become an everyday phenomenon. In the context of war, then, the mesh of wireless networks exponentially increases the reach, depth and functionality of such networks.¹¹⁶

It is pertinent to note that while we have been discussing the networked phenomenon in the context of the battlespace, it is not limited to the military environment. With the explosion of information networks, we find that the nature of information is such that the more that is produced, the more co-relations and cross references can be made.¹¹⁷ Consequently, the application of the network

¹¹⁵ Ibid p 121.

¹¹⁶ Trace Gunsch, “The Wireless Road Ahead”, in *Military Information Technology*, Vol. 8 Issue 5 July 09, 2004.

¹¹⁷ Steven Shaviro, *Connected, or what it means to live in the network society*, p 42. In this connection, the work done by Norbert Wiener assumes importance. During World War II, Wiener worked on guided missile technology, and studied how sophisticated electronics used the feedback principle. Wiener noted that the feedback principle is also a key feature of life forms from the simplest plants to the most complex

phenomenon in, what is assumed to be, the purely civilian sector, especially in the fields of commerce and medicine, is also increasing by leaps and bounds. Indeed, it can be argued that the first material (in this context material is understood as being commercial in the sense of profit-making) manifestations of the network phenomenon can be found in the commercial sector.¹¹⁸ Given that the network topology that characterizes the military environment and the allegedly civilian sector share an astonishing similarity and the fact that the military environment shares the core dynamics of the civilian world (this being one of the effects of the Age of Information – recall in this context Porter’s value-chain hypothesis), the net result is that the mesh of networks that we see emerging in the context of the battlefield also extends, in more ways than one, globally.

A New Strategic Commons: A Wide Angle View of Network-centric Warfare

Consequently, “[T]oday, we are inclined to see nearly everything in terms of connections and networks.”¹¹⁹ This has led K. W. Jeter, in the novel *Noir*, to observe that the problem is not how we get onto the network, but how do we get

animals, which change their actions in response to their environment. Wiener developed this concept into the field of cybernetics. See Internet History – Norbert Weiner, Available at http://livinginternet.com/i/ii_wiener.htm. Last accessed on July 28, 2004. See also N. Katherine Hayles, *How We Became Post-Human: Virtual Bodies in Cybernetics, Literature and Informatics*, pp 84-112.

¹¹⁸ It is arguable that the B2B (business to business) model is the original formulation of the networked phenomenon in the commercial world. This is evident if one notes the buyer-client relationship outside of the computing context. What technology has done is to secure the links between businesses and to extend the links (now in near real time) to other areas such as B2C etc. The following companies are often mentioned as ‘role models’ of organizations that engaged in NCOs (Network-centric Operations): Boeing (in terms of cross-team collaborations), IBM and Microsoft (in terms of cross-continental ‘virtual operations’), Dell Computers (in terms of ‘sense-respond’ market strategies), Wal-Mart ((in terms of self-synchronization – from the retail floor to the manufacturing and assembly site) and DMG, Inc. (in terms of creating a ‘new’ digital financial ‘eco-system’ characterized by the *Autobahn*, its automated trading service). See Alberts, Gartska, Hayes, Signori, *Understanding Information Age Warfare*, pp 35-51.

¹¹⁹. Steven Shaviro, *Connected, or what it means to live in the network society*, p 3

off it.¹²⁰ Thus, being connected implies – humans connected to machines, machines connected to machines, humans connected to humans, humans connected to environments, machines connected to environments, environments connected to environments...and so on. Being connected is thus no longer simply a question of networks of hardware or hardware-based software. Being connected is being enmeshed in a plethora of material and non-material networks.¹²¹ It is in this context that Licklider’s original conception of a ‘network for communication’ has taken on a global meaning. Not only does it include the network of communication devices (including the Internet and the W3), it also includes the very potentiality of events. Recall in this context our discussion on the limiting of the conditions of possibility by the specific procedure of the technologisation of language enabled by the project of digitization. The networking of events (with events increasingly occurring within the mesh of networks) thus pertains to all signs, including information. In turn, what this implies is that events and the grounds of their emergence share a common condition. They are networked.¹²²

The core conceptual foundations of NCW, therefore, arises from the idea that if the very conditions of possibility are enmeshed within networks, then war may be understood as being a phenomenon whose possibility, in terms of its

¹²⁰ See K. W. Jeter, *Noir*, (New York, NY: Bantam Books, 1999).

¹²¹ Noel Schachtman, “Big Brother Gets a Brain – The Pentagon’s Plan for Tracking Everything that Moves”, *Wired News*, July 9-15, 2003. Available at <http://www.villagevoice.com/issues/0328/shachtman.php>. Last accessed on July 28, 2004. Known as the CTS (Combat Zones That See), it is a project being conducted under the DARPA. See also DARPA Solicitation, BAA 03-15. Available at <http://dtsn.darpa.mil/ixo/solicitations/cts/index.htm>. Last accessed on July 28, 2004.

¹²² Brian Massumi, *Movement, Affect, Sensation – Parables for the Virtual*, ((London, UK: Duke University Press, 2002), p 87.

emergence and conduct, is immanent within this mesh of networks. To understand this as being a material manifestation of the limitation of war would be an error. Contrarily, war within such a framework displays a pervasiveness which is global and local. In other words, the mesh of networks not only facilitates the conduct of war, but it also ensures that the potentiality of the emergence of war is always at the threshold of actualization. This is (not so explicitly) stated by Martin Libicki who is regarded as one of the leading theorizers of NCW. In the context of strategic and tactical sensors, he writes:

...even with stealth, everything ultimately can be found. All objects have mass and thus gravity. Every object moving in a medium creates vortices and must expend energy to do so. If nothing else, objects of a certain size have to occupy some space for some time. A set of sensors placed sufficiently close together can, in theory, eventually trap everything by getting close enough. A line of sensitive receivers placed close together will find its line-of-sight to a beaming object cut if a bomber – no matter how stealthy – rolls past...sensors of certain minimum discrimination placed close enough together can, at some epsilon, catch anything.¹²³

The implications of Libicki's words are clear enough. While being limited to battlefield sensors, Libicki's ruminations hold a resonance at a meta-level. Having previously established that the conditions of possibility are bounded by the network or the mesh of networks, then it is not impossible to conceive the possibility of conflict, manifested as war, as being present (in its potentiality) at every (dynamically shifting) point within the mesh of networks. In this context,

¹²³ Martin Libicki, *The Mesh and the Net – Speculations on Armed Conflict in a Time of Free Silicon*, pp 30-31.

Libicki's words move from the specifics of strategic and tactical battlefield sensors, to a wholly different register. The ability (or, in the most extreme cases, the desire) to 'catch anything' within the cross-hairs of a Grid of sensors is, within the conceptual framework of NCW, indicative of the emerging character of warfare in a networked Age. Recall, in this context, the RSC as conceptualized by the Soviet Military thinkers and Admiral Owens' formulation of the SOS.¹²⁴ These early conceptualizations of networked warfare were, in retrospect, rather prescient about the trajectory that NCW would eventually take. As we have already seen the RSC and the SOS were conceptualized as being a wide 'network' of intelligence gathering, fusion, analytical and dissemination assemblages, which would be linked with advanced weapon systems to enable striking at a diverse array of targets with increasing precision. The more mature formulations of NCW take this a number of steps forward. In the process, firepower, weight and mass, which are the traditional metrics of warfare and of the instruments of war, are being increasingly replaced by an evolving set of 'concepts of operations' that designed to operate (primarily) at the informational and cognitive domains.

As we have seen, the two critical problems at the core of the NCW project were (1) how to quantify information and (2) how to optimize the design of the network that could guide and direct the flow of information seamlessly and in Real Time. It was not long before attempts were initiated address these two problems. It was recognized, even at the height of the Vietnam War, that the

¹²⁴ As an aside, it is interesting to note given that the formulation of the RSC first emanated from the erstwhile USSR with its totalitarian form of government, one wonders whether NCW, in its emerging form, is as totalitarian in its interpretation as the regime that first pioneered it.

extreme fluidity and pace of military operations required an organizational set-up which would resemble a decentralized and flattened structure. This was nothing but a re-recognition of the salient principles of *Auftragstaktik*. The critical element, however, that aided the process of initiating the first steps to conceptualize war and the battlefield as a network was the unprecedented rise of ICTs.

The Vietnam War highlighted, among other things, the pitfalls associated with the tendency to centralize and the operational problems related to resource pooling.¹²⁵ The stark lessons for global military planners were two-fold. The first was the recognition that the modern day military machine was a much larger and infinitely more complex entity than ever before and thus it required a huge logistical back-up,¹²⁶ and the second was that to make such a large military machine functional, at acceptable levels of efficiency, information was a necessity. The last point was a paradoxical one. The US Army, in Vietnam, had created one of the most sophisticated military information networks¹²⁷ and the net result was the emergence of a term that would begin to resonate with increasing frequency in the following years – ‘information overload’, a phenomenon which had virtually choked the US military organization. From the 1970’s, “with the advent of battleworthy precision-guided munitions, the higher plateaus reached by electronic warfare in close association with new methods for intelligence, surveillance, and target acquisition, and the development of a global system for

¹²⁵ Martin van Crevald, *Command in War*, p 258.

¹²⁶ Ibid p 235.

¹²⁷ Ibid p 258.

controlling US strategic and tactical forces”,¹²⁸ a radical shift began to occur not only in the instruments of war, but also in the way war and its conduct were being (re) conceptualized. Concurrently, the dramatic rise in computing power and the viral spread of high-speed information networks spurred on by the Internet ensured the emergence of what is now known as the Information Age.

It is claimed that the advent of the Information Age has altered the nature of the world by:

1. changing how wealth is created
2. altering the distribution of power
3. increasing complexity
4. shrinking distance around the world
5. compressing time¹²⁹

This radical alteration of the nature of the world finds its materiality in the changing dynamics of the global economy driven by the globalization of the circulation-paths of capital and labour. Simultaneously, the relentless technological drive led by the ubiquitous growth-rate of Information Technology is permeating the very home and hearth of most of the Western world and is moving at a fast clip in other regions of the globe. One of the major consequences of these seismic changes is the faster evolution and emergence of threats – in

¹²⁸ Kenneth Allard, *Command, Control, and the Common Defence*, Revised Edition, p 150.

¹²⁹ Alberts, Gartska, Stein, *Network-Centric Warfare – Developing and Leveraging Information Superiority*, p 15.

terms of their identity, nature and diversity. Threats, in the Age of Information, are becoming more anonymous and, therefore, more dangerous. Given this, the complexity and non-linearity that, as established by the ‘new sciences’, is a characteristic feature of the world has also increased exponentially. Since war and its conduct is a product of its age, naturally, its character and conduct in the Information Age, buoyed by the concomitant technological advances, are also morphing.¹³⁰

The key enabler in this ‘new’ age is thus not only information, but also the phenomenon of ‘being in-formation’. As a consequence, it is held that the “...changes in technology and the integration of those changes into weapons, concepts, and organizations means that the role of information relative to more-conventional (*sic*) measures of military strength is likely to change...”¹³¹ The influence of information, however, is not limited to the changes that it brings when meshed with weapon-systems, concepts and organizations. A much deeper change is occurring and this is evident when we note precisely how and where the ‘battlespace’ is being reconfigured and located. While in the Post-Industrial age, the battlespace was still located at the site of the Physical, in the Information Age, the Battlespace is located, as the diagram below shows, across three domains: the Physical, Cognitive and the Informational.¹³²

¹³⁰ Ibid p 1.

¹³¹ Khalilzad, White, Marshall, *Strategic Appraisal: The Changing Role of Information in Warfare*, MR-1016-AF, (Santa Monica, CA: RAND Corp., 1999), p 8. Available at <http://www.rand.org/publications/MR/MR1016/>. Last Accessed on July 28, 2004.

¹³² Arthur L. Money, Asst. Sec. of Defence (C3I), US DoD, “Report on Network-Centric Warfare – Sense of Report”, Submitted to the US Congress in partial fulfillment of Sec. 934 of the Defence Authorization

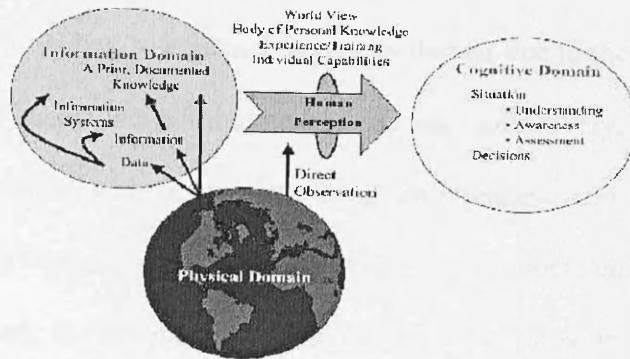


Figure 6: The Three Domains

Source: Alberts, Gartska, Hayes, Signori, *Understanding Information Age Warfare*, (Washington, DC: US DoD, CCRP, 2002), p 11.

The widening of the battlespace across these three domains is a signature of the dramatic impact that ICTs are having on the very economics of information.¹³³

The figure below depicts the increasingly central role that information and information systems, derivatives of the rapidly evolving ICTs, are playing in the context of the widening battlespace.

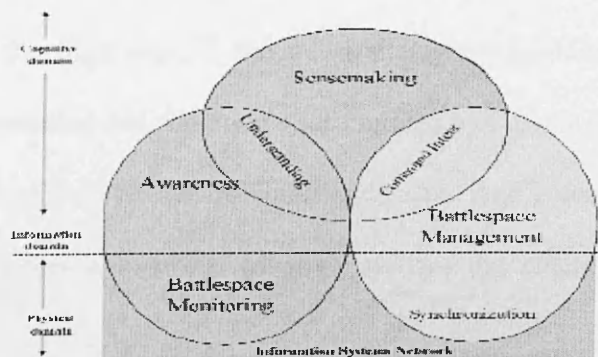


Figure 7: The Centrality of Information and Information systems.

Source: *The Big Issue: Command and Combat in the Information Age*, Ed. David Potts, Information Age Transformation series, SCSC Occasional No. 45, (Washington, DC: US DoD, CCRP, 2003), p 54.

Act for FY 01 (Public Law 106-398), March 2001, p 5. Available at http://www.dod.mil/nii/NCW/ncw_sense.pdf. Last accessed on July 28, 2004.

¹³³ Evans and Wurster, "Strategy and the New Economics of Information", *Harvard Business Review*, Sept-Oct. 1997. Vol. 75 Issue 5, pp 71-84.

Consequently, the traditional choice between ‘information reach’ and ‘information richness’ has, to a greater degree, collapsed due to the emergence of technologies that enable the distribution and sharing (collectively, extending the reach) of information without compromising the richness and depth of the information being shared.¹³⁴ This development has its reciprocal effect, albeit in a non-linear manner, in the cognitive and physical domains in the form of responsiveness, adaptability and flexibility.¹³⁵ The impact that this has had on warfare is tremendous. Thus, for example, the extension of the battlespace across the domains of information, cognition and the physical is indicative of the non-dimensional nature of the battlespace. It is non-dimensional in the sense that it is an increasingly cultural and creative site defined by information, perception, cognition and belief.¹³⁶ The emerging ‘reality’ is that this reconfigured battlespace is the most complex battlespace of the 21st Century and, as such, it defines the new ‘strategic commons’.¹³⁷ Taking the cue from Mahan’s concept of the ‘wide commons’ of the high seas,¹³⁸ the new ‘strategic commons’ is the complex domain of information and cognition characterized by low-cost entry barriers thus putting it within effective reach of Non-State Actors. And given that, in this sense, it closely resembles a complex adaptive system, the emerging battlespace is

¹³⁴ The emergence of ‘thin client’ technology, in this context, is highly revealing.

¹³⁵ Alberts, Gartska, Stein, Signouri, *Understanding Information Warfare*, , pp 47-49.

¹³⁶ Arthur K. Cebrowski, Director, OFT, “Transformation and the Changing Character of War”, *Transformation Trends*, Office of Force Transformation, US Dept. of Defence, June 17, 2004. pp 7-8. Available at http://www.oft.osd.mil/library/library_files/trends_370_Transformation%20Trends-17%20June%202004%20Issue.pdf. Last accessed on July 28, 2004.

¹³⁷ Ibid. p7.

¹³⁸ Alfred Thayer Mahan, *The Influence of Sea Power on History – 1660-1783*, (New York: Dover Publications, 1987), p 25. See also Paul Kennedy, *The Rise and Fall of British Naval Mastery*, (London: Penguin Books, 2001), pp 1-9.

highly complex, non-linear and co-evolving with the minutest changes that take place within the global networked eco-system.

The key issue concerning warfare in the Information Age is the notion of ‘information superiority’. Simply put, this is the “state of ... (relative advantage) in the information domain that is achieved by being able to get the right information to the right person at the right time in the right form while denying an adversary the ability to do the same.”¹³⁹ While this may, to some, be solely understood in terms of the competitive advantage gained by one force over another in terms of information and communication capabilities, the critical aspect of ‘information superiority’ has more to do with the relationship between information capabilities and needs. Traditionally, military organizations (across the various hierarchies of command) have had to strike a compromise between information capabilities and needs due to the limits placed by the available technologies.¹⁴⁰ Increasingly, however, ICTs are allowing for the de-limiting of this relationship and are enabling not merely more choices, but a tailoring of such capabilities relative to the operational necessities and this is resulting in the transformation of existing organizations to adapt to the emerging conditions and of the rise of new organizations which are geared to operate within such emergent conditions. An example of the latter is the Office of Force Transformation (OFT) in the US Department of Defence.¹⁴¹

¹³⁹ Alberts, Gartska, Stein, Signouri, *Understanding Information Warfare*, p 55.

¹⁴⁰ *Ibid.*

¹⁴¹ Office of Force Transformation, US Department of Defence (<http://www.oft.osd.mil/index.cfm>)

The emergence of the OFT is premised on the notion that a ‘new metric’, which is emerging as a result of the ‘changing character of war’,¹⁴² necessitates a non-linear yet deductive form of thinking. Consequently, the OFT is geared to provide, both the impetus and the results, of this kind of thinking in terms of the co-evolution of concepts, processes, organizations and technology and since like complex adaptive systems, change in any one of these areas necessitates change in all, the OFT is meant to identify, leverage and even create new underlying principles for the way things are done.¹⁴³ From this the co-evolutionary nature of the OFT becomes clear. The OFT is not a standard bureaucratic organization. Instead, it is an organization that is network-centric, meaning that it is a dynamic organization which co-evolves in tandem with the ‘concepts, processes, organizations and technology’ that it purports to identify. In this sense, the OFT is truly a revolutionary organizational entity for it is one that is singularly tasked to undertake the ‘transformation of force’ by working “to identify and leverage new sources of power”.¹⁴⁴ In this sense, the OFT is the organizational equivalent of a complex adaptive system and a forerunner of the network-centric organization that is increasingly come to characterize the Information Age.

¹⁴² Arthur K. Cebrowski, Director, OFT, “Transformation and the Changing Character of War”, *Transformation Trends*, Office of Force Transformation, US Dept. of Defence, June 17, 2004. Available at http://www.oft.osd.mil/library/library_files/trends_370_Transformation%20Trends-17%20June%202004%20Issue.pdf. Last accessed on July 28, 2004.

¹⁴³ From the website of The Office of Force Transformation. Available at http://www.oft.osd.mil/what_is_transformation.cfm Last accessed on July 28, 2004.

¹⁴⁴ Ibid. Also recall in this context Foucault’s observation. He said, particularly in the context of discourse and institutions, “[this is] a general recipe for the exercise of power over men: the ‘mind’ as a surface of inscription for power, with semiology as its tool; the submission of bodies through the control of ideas”. Michael Foucault, *Discipline and Punish – The Birth of the Prison*, p 102. The resonance of Foucault’s observations and the activities of the OFT are startling.

The net result of the developments described above is the rise of the concept of the 'network', which are the collection of links and nodes across the three domains mentioned above. It may be claimed that this is a patently mechanistic view of networks; however, it is important to note that the concept of networks, in this context, is akin to that of complex adaptive systems and therefore, networks, like complex adaptive systems, are highly sensitive to their ecological context, that is, their environment. This kind of thinking - one which is able to bypass the link / node binary usually associated with networks - is 'network-centric'. It is patently non-linear and structurally fluid. What makes the network perspective so powerful is that it reaches beyond the specifics of the hardware involved. Instead, the constantly evolving nature of networks points to the dynamic "laws of pure form"¹⁴⁵ (alternatively, of organization). This is being increasingly reflected in the thinking about weapon-platforms in the Information Age. No longer can weapons-platforms be thought of as singular and independent entities, they are now linked through a lattice of nodes and links and this entails thinking about the network of which they are a part of rather than of the platforms themselves.

Given this, war and its conduct in the Information Age is now no longer limited to the comparative destructive potential of weapons-platforms; instead it is about the destructive and constructive capabilities embedded in networks and of networks themselves, which are complex and adapting mini-ecosystems. These are each linked in innumerable ways to other networks, collectively forming the

¹⁴⁵ Mark Buchanan, *Small Worlds – Uncovering Nature's Hidden Networks*, p 165.

global networked eco-system, which pulsates in accordance to its inherent dynamics. Given that networks are complex adapting systems, their susceptibility to Lorenz's 'butter-fly effects' are very high. This makes the ontology of NCW intricately complex, inherently non-linear, patently unpredictable and highly dangerous, more so than the battlespace of the traditional forms of warfare of the last century.

Security, then, in the networked environment, is more oriented towards control manifested in the form of a global surveillance. "We are moving toward control societies that no longer operate by confining people but through continuous control and instant communication."¹⁴⁶ This, in more ways than one, enables the emerging networked military to be able to operate at will across the full spectrum of the networks that are increasingly enmeshing global society. Recognition of this emerging state of affairs (which may be attributed, in part, to the emergence of the concept of NCW) enables us to engage with the strategies that the concepts of NCW have spawned. As we shall see, two orders of strategizing are possible. The first can be understood in terms of the more militarily-oriented strategy and the second, which is more diffused and subtle, is a full spectrum strategy, which makes the assumption that the world is a comprehensively networked battlespace.

¹⁴⁶ Deleuze, *Negotiations*, p 174.

Two Orders of Strategy

If we combine our recognition of the complexity and non-linearity of the environment, the imperceptible but relentless process of the technologisation of discourse that is occurring and the emergence and explosion of the ‘networked’ phenomenon, we are, in the context of NCW, able to discern the emergence of a pattern. While it would be a misnomer to call this pattern a strategy at any level, except perhaps in terms of technology deployment, it nevertheless allows us to hypothesize on the direction that the ‘practice of strategy’ may take within the rapidly expanding domain of NCW.

As is well known, ‘strategy’ is a contested term.¹⁴⁷ It has and continues to mean different things to different people.¹⁴⁸ Thus, for example, while Clausewitz understood strategy as being “the use of engagements for the object of war”,¹⁴⁹ for Basil Liddell Hart, strategy was “the art of distributing and applying military means to fulfill the ends of policy.”¹⁵⁰ The difference, in this case, is one of refinement, rather than in content and is symptomatic of the definitional tussles that have taken place in the field of strategic studies over a period of time.¹⁵¹

¹⁴⁷ Lawrence Freedman, *The Evolution of Nuclear Strategy*, Third Edition, (New York, NY: Palgrave Macmillan, 2003), p xviii-xix. See also Carl H. Builder, *The Masks of War – American Military Styles in Strategy and Analysis*, A RAND Corp. Research Study, (Baltimore, MD: Johns Hopkins University Press, 1989), pp 47-56.

¹⁴⁸ Williamson Murray & Mark Grimsby, “Introduction: On Strategy”, in *The Making of Strategy: Rulers, States, and War*, Ed. Murray, Knox and Bernstein, (Cambridge, UK: Cambridge Univ. Press, 1999), p 1.

¹⁴⁹ Carl von Clausewitz, *On War*, p 128.

¹⁵⁰ B. H. Liddell Hart, *Strategy*, 2nd Revised Edition, p 321.

¹⁵¹ See Colin S. Gray, *Modern Strategy*, pp 16-44 for a summary of the definitional distinctions and an engaging overview of the ‘dimensions of strategy’. See also Williamson Murray & Mark Grimsby,

Clausewitz's use of the term 'engagement', on a careful reading suggests that it comprises of a much wider field than that pertaining merely to battles. Thus, 'engagements' could also viably include not only battles and campaigns but also the use of threats – explicit and implicit (thus including all aspects of coercion) – and the available instruments of power for the furtherance of state policy. However, to state, as some have, that “[T]here appears to be a unity to all strategic experience, regardless of period, polity, or technology”¹⁵² would be to assume a contestable *a priori* position which holds that the principles of conflict and war have remained true throughout the history of human experience. “A cursory look into the development of some of the most time-honoured ideas that comprise the principles [of war] will find historical contexts that are completely foreign to us today.”¹⁵³ This is reinforced by the fact that the “time we live in [is] unlike any other, a time when the pace of change demands that we change...it is a time when our analysis methods are becoming less and less able to shed light on the choices we face.”¹⁵⁴ In short, the topology of the world, as we have traditionally viewed it, has changed and more importantly, the pace of change has perceptibly quickened. The pertinent question to ask, therefore, would be: Given the widespread changes that are manifesting themselves across the topology of the world, driven by

“Introduction: On Strategy”, in *The Making of Strategy: Rulers, States, and War*, Ed. Murray, Knox and Bernstein, (Cambridge, UK: Cambridge Univ. Press, 1999) pp 1-23.

¹⁵² Ibid p 8.

¹⁵³ Robert R. Leonhard, *The Principles of War for the Information Age*, , p 9.

¹⁵⁴ Alberts, Gartska, Stein, Signouri, *Understanding Information Warfare*, p xiii. See also Vice Admiral Cebrowski, “New Rules, New Era – Pentagon Must Embrace Information Age”, *Defence News*, Oct. 21-27, 2002, p 28. The admiral writes, “With the dramatic change in warfare being unleashed by the transition to the information age, future military capabilities must be judged using new criteria...Yet the deeper more profound debate is about how the changing military rule sets that indicate newer sources of power and how they are brought to bear...A new American way of war has emerged – network-centric operations.”

Available at http://www.oft.osd.mil/library/library_files/article_27_Defense%20News%20-%20New%20Rules-New%20Era%20-%2021-27%20Oct%202002.htm. Last accessed on July 28, 2004.

technology and our relationship to it in economic, social and cultural terms, have the principles of war, indeed the conception of war, changed? If the answer to this is affirmative, then an examination of the act (or as some would contend, the art) of strategizing is warranted.

In what follows, two orders of strategy – one local, the other global – are examined. The first, or the local order of strategy, is discussed in military terms and is more commonly identified as the strategy of Full Spectrum Dominance. The second, or the global order of strategy, however, is more abstract and speculatively oriented. This is because, *inter alia*, it draws attention to the ‘global’ implications of the first order of strategy in the Age of Information.

The First Order

One of the key strategic orientations of NCW, which is increasingly being trumpeted as a ‘new way of war’, is geared to combat, contain and ultimately remove (though the possibility of removal remains highly suspect) the presence of the uncertainty principle within a patently martial condition. Yet, as we have seen, this ambition has been a constant thematic – sometimes subdued and at other times highlighted – throughout the history of military thought.

The development and deployment of advanced ICTs in war - when considered in the more banal sense of the application and use of technology in the prosecution of war – is most commonly understood as being an ambitious – some say misguided – attempt to deal with the (operational) problems posed by the uncertainty principle. Contrarily, the crux of the matter was cryptically alluded to by the US Secretary of Defence, who on February 12, 2002, at a US Department of Defence news briefing, spoke of the future in the following terms. He said, “... there are...unknown unknowns, the ones we don't know we don't know.”¹⁵⁵ While his statement may have drawn ridicule from some quarters as being obtuse, one finds on a careful reading that not only is it a most curiously poeticized articulation of the uncertainty principle – both at the global and local strategic levels,¹⁵⁶ it was also a reference to how war is more a matter of informationalization rather than a matter of problematization.

As we have seen, the conceptual formulations of NCW hold ‘information’ and ‘information-superiority’ as being one of the critical

¹⁵⁵ US DoD News Briefing - Secretary Rumsfeld and Gen. Myers, Tuesday, Feb. 12, 2002 - 11:31 a.m. EST. Available at http://www.defenselink.mil/transcripts/2002/t02122002_t212sdv2.html. Last accessed on July 28, 2004.

¹⁵⁶ *Joint Vision 2020 (JV 2020)* also marks this. There is an explicit recognition of the presence of friction in military operations and the need to induce ‘frictional imbalance’ in ‘the enemy’. In the context of *JV 2020*, friction consists of 5 elements – (1) Effects of Danger and Exertion (2) Existence of Uncertainty and Chance (3) Unpredictability of the actions of others (4) Frailties of Human and Machines and (5) Humans. The last category is interesting in the context of NCW. See *Joint Vision 2020*, Chairman of the Joint Chiefs of Staff, Director for Strategic Plans and Policy, J5, Strategy Division, (Washington, DC: US Govt. Printing Office), June 2000. p 6 of PDF file. Available at <http://www.dtic.mil/jointvision/jvpub2.htm>. Last accessed on July 28, 2004.

competitive advantages for the military of the 21st Century.¹⁵⁷ This is underscored by the recognition that the need of the hour is “to be highly responsive, adaptable, flexible and precise”¹⁵⁸ in the application of force and, one might add, in the identification of threats. Thus, today, ‘information’ *as* warfare has become equally important as ‘information’ *in* warfare.¹⁵⁹ Information, in this context, is understood as being that which is “...needed to accomplish the task at hand, which includes achieving the level of effectiveness specified ... (and the) ... efficiency metrics that reflect limits on the resources to be used in achieving that level of effectiveness.”¹⁶⁰ This is now being materialized in the form of digitized C2 systems, which are increasingly geared to exploit information, gain information superiority and deny an adversary the advantages of the same.

Information systems have always been central to warfare and critical in enhancing military effectiveness as evidenced by the use of the telegraph, which considerably influenced military operations during the American Civil War and the wireless radio, which played a significant role in the operations of the German Panzer divisions during the *Blitzkrieg* campaign of 1940 in France.¹⁶¹ The emerging digitized C2 networks and

¹⁵⁷ See *Joint Vision 2020*, Chairman of the Joint Chiefs of Staff, Director for Strategic Plans and Policy, J5, Strategy Division, (Washington, DC: US Govt. Printing Office), June 2000. Available at <http://www.dtic.mil/jointvision/jvpub2.htm>. Last accessed on July 28, 2004.

¹⁵⁸ Alberts, Gartska, Stein, Signouri, *Understanding Information Warfare*, p 43.

¹⁵⁹ Bishop and Goldman, “The Strategy and Tactics of Information Warfare”, in *National Security in the Information Age*, Ed. Emily O. Goldman, (London, UK: Frank Cass Publishers, 2004), p 114.

¹⁶⁰ Alberts, Gartska, Stein, Signouri, *Understanding Information Warfare*, p 104.

¹⁶¹ Bishop and Goldman, “The Strategy and Tactics of Information Warfare”, in *National Security in the Information Age*, Ed. Emily O. Goldman, p 113.

systems (aided by distributed computing and networking technologies, smaller micro-processors, wide bandwidth and the inversion of Grosch's Law), on the other hand, have allowed for a degree of dynamic interactions, particularly at the tactical and operational levels, unheard of previously. With a mix of voice, data and dynamic images, a level of information richness and reach is being achieved which is enabling the instantiation of a Single Integrated Operational Picture (SIOP), which can be tailored for analysis and dissemination across the board.¹⁶² This is increasingly resulting in the obtaining of composite situational pictures at the various tactical, operational, theatre and grand-strategic levels as identified by Luttwak.¹⁶³ It will be noted that while the situational picture may differ due to the different emphasis on the needs and requirements at the various levels, there however, does exist a strong continuity in the integrated picture that is available at all levels. This is another of the strategic keystones of NCW and is frequently referred to as "Shared Awareness". The figure below highlights the dynamics of 'shared awareness'.

¹⁶² Alberts, Gartska, Stein, Signouri, *Understanding Information Warfare*, p 102.

¹⁶³ See Edward N. Luttwak, *Strategy – The Logic of War and Peace*, (Cambridge, MA: Belknap Press, 1999), p 69.

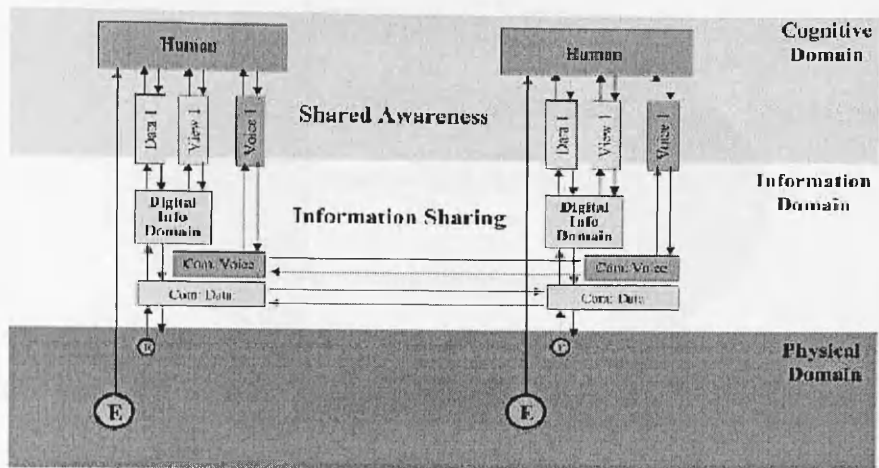


Figure 8: Dynamics of Shared Awareness

Source: Alberts, Gartska, Stein, Signouri, *Understanding Information Warfare*, (Washington, DC: US DoD, CCRP, 2002), p 126.

In turn, the digitization of C2 systems resulting in the creation of a ‘shared awareness’, coupled with highly capable sensors/ feedback systems and precision-guided munitions is gradually resulting in the development of a military organization, which is unlike any seen before. It is an organization that is marked by an inherent flexibility and a peculiar adaptivity to the flux of the environment within which it operates.¹⁶⁴ In effect, it operates much like the ‘complex adaptive system’ that we have had occasion to examine earlier. This is the ‘new’ face of the military and its rudiments are best highlighted by the figure given below.

¹⁶⁴ Alberts, Gartska, Stein, *Network-Centric Warfare – Developing and Leveraging Information Superiority*, p 51.

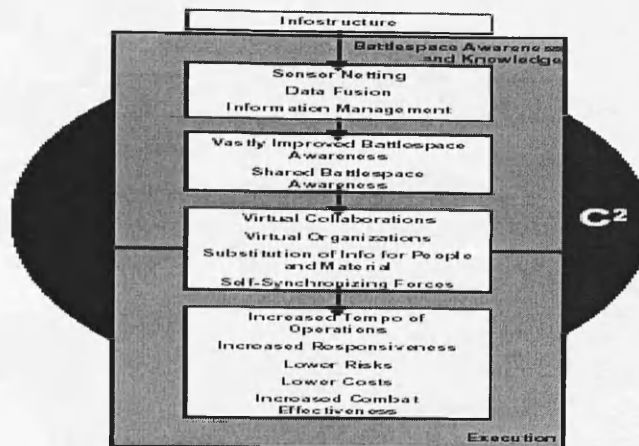


Figure 9: Evolving Face of the Network-centric Military Organization
 Source: Alberts, Gartska, Stein, *Network-Centric Warfare – Developing and Leveraging Information Superiority*, (Washington, DC: US DoD, CCRP), Oct. 2003 p 89.

Concurrently, the availability of ‘shared awareness’, by moving information rather than people, in turn, allows for dispersed and de-massed forces to synchronize, integrate and collaborate on operations across spatial and temporal differences.¹⁶⁵ This, in turn, results in exercising an enhanced degree of operational flexibility at individual levels and collectively gaining full spectrum dominance at a global level as depicted by the figure below.

¹⁶⁵ James Hazlett, “Just-in-Time Warfare”, in *Dominant Battlespace Knowledge*, Ed. Stuart Johnson & Martin Libicki, The Center for Advanced Concepts and Technology, Institute for National Strategic Studies (Washington, DC: National Defence University Press, 1996), p 116.

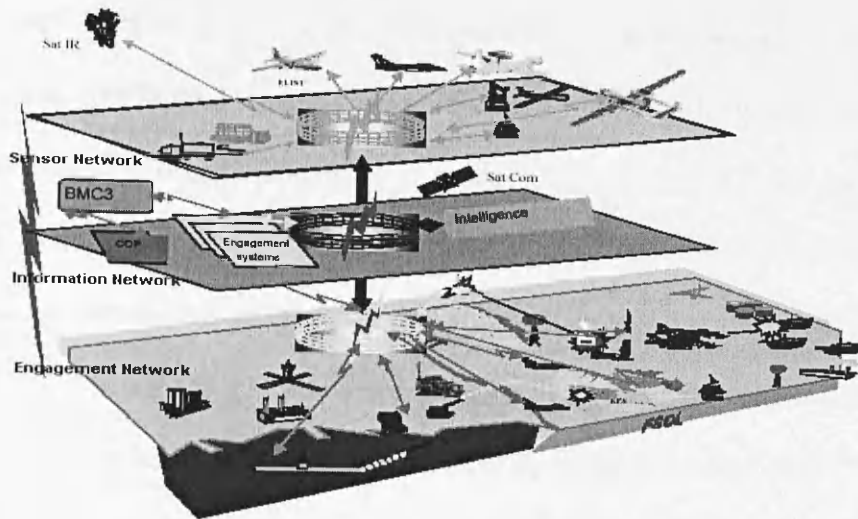


Figure 10: Exercising Full Spectrum Dominance

Source: Ralph Thiele, "Network Centric Warfare", Waldbroel, August 15, 2003.

Available at http://www.plath.de/en/service/pdf/network-centric-warfare_charts.pdf. Last accessed on July 28, 2004. Modified by author.

It will be noted that, at least theoretically, the creation of 'shared awareness' deployed through a networked military necessarily implies that the organization of C2 structures would also have to be rethought.¹⁶⁶ Traditionally, C2 structures were hierarchical and fully centralized. These C2 structures, however, were also highly linear as evidenced by the example of the Soviet Military Command structure of World War II and after.¹⁶⁷ With the emergence of the networked phenomenon, it has now become possible to decentralize the C2 structure and to make it more adaptive to the rapidly evolving events occurring within the battlespace.¹⁶⁸

¹⁶⁶ In this context, it is instructive to note the research activities being conducted by the US Office of Naval Research, particularly in the field of 'computational neuroscience'. See US Office of Naval Research, Science & Technology – Human Systems, Computational Neurosciences, Available at http://www.onr.navy.mil/sci_tech/personnel/342/. Last accessed on July 28, 2004.

¹⁶⁷ Alberts, Gartska, Stein, Signouri, *Understanding Information Warfare*, pp 169-184.

¹⁶⁸ The GCCS – J (Global Command and Control System - Joint) is an example of this. The "GCCS-J is the nation's premier system for the command and control of joint and coalition forces. It incorporates the force planning and readiness assessment applications required by battlefield commanders to effectively plan and

Military units networked (either by wired or wireless technologies) with weapon-platforms of different capabilities and high-end (long-range and short-range) sensors, within a decentralized C2 system, are now actualizing the projections originally made by the Soviet military thinkers in their formulations of the RSC. The ability to engage a wide variety of targets over a geographically dispersed area is increasingly enabling the creation of a WAN (Wide Area Network) of interdiction possibilities.¹⁶⁹

One of the consequences of these developments is that the different ‘levels of strategy’ as identified by Luttwak and as alluded to by us earlier are slowly dissipating. “Historically these levels exist because of limitations in communications and span of control...NCW lessens these constraints”¹⁷⁰ and thus allows for different modes of organization and operations. They also materially assist in developing certain key operational concepts as highlighted by the Transformation Planning Guide (TPG) recently approved by the US Department of Defence. Thus, the strategy of NCW, according to the TPG, revolves around:

execute military operations. The GCCS-J is fielded at 635 sites worldwide, all networked via the DoD's classified private Intranet.” See “What is the Joint Global Command & Control Systems (GCCS-J)?” Defence Information Systems Agency. Available at <http://gccs.disa.mil/gccs/>. Last accessed on July 28, 2004. The GCCS formally replaced the WWMCCS (World Wide Military Command and Control System) of the Vietnam Era on June 30, 1997. See US DoD News Release “Global Command and Control System Fully in Place”, Available at http://www.dod.mil/releases/1997/b07091997_bt367-97.html. Last accessed on July 28, 2004.

¹⁶⁹ Note the resemblance between the possibilities of a WAN interdiction capability with what in the commercial software project management sector is known as the Global Delivery Model (GDM). In simple terms, the “GDM is a framework for distributed project management and multi-location engagement teams... It provides clearly defined process guidelines emphasizing the importance of information flow and communication...” See The Boston Group – Delivery Model. Available at <http://www.thebostongroup.com/services/offshore/deliverymodel.asp#>. Last accessed on July 28, 2004.

¹⁷⁰ Alberts, Gartska, Stein, *Network-Centric Warfare – Developing and Leveraging Information Superiority*, p 84.

1. Superior Information Position
2. High Quality Shared Awareness
3. Dynamic Self-Coordination
4. Dispersed and de-massed Forces
5. Deep Sensor Reach
6. Compressed Operations and Levels of War
7. Rapid Speed of Command
8. Alter initial conditions at increased rates of change¹⁷¹

The implications of this become evident when we place these strategic concepts within an operational Grid. Within such a Grid, these concepts can be reduced to the principles of dominant maneuver, precision engagement, focused logistics and full dimension protection. The Grid referred to here needs some elucidation. Three kinds of networks constitute the Grid. They are the networks of information, sensors and engagement, which are overlaid or meshed with each other. Collectively therefore, the Grid enables predictive planning, integrated force management and the execution of time-sensitive missions¹⁷² and consequently defines the very boundaries of the battlespace. It is in this sense that battlespace is considered as war.

¹⁷¹ “Transformation Planning Guide Approved”, DoD Update, (Washington, DC: DFI International Corporate Services), March 24, 2003. Available at <http://www.dfi-intl.com/shared/updates/dod/2003-03-24DoDUpdate.pdf>. Last accessed on July 28, 2004.

¹⁷² Fred P. Stein, “Observations on the Emergence of Network Centric Warfare”, (Vienna, VA: Evidence Based Research, Inc), 1998. Available at http://www.dodccrp.org/research/ncw/stein_observations/steinncw.htm. Last accessed on July 28, 2004.

While the development of such a comprehensive operational Grid is yet in the future, the US Navy's Cooperative Engagement Capability (CEC) is symptomatic of the architecture of the emerging Grid-based model of warfare. The diagram below depicts the emerging strategic architecture of NCW with the incorporation of the CEC.

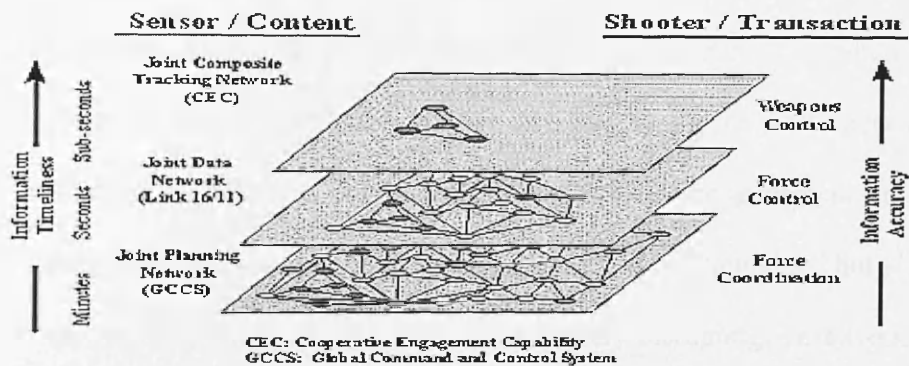


Figure 11: The Evolving Architecture of the CEC
 Source: Vice Admiral Arthur K. Cebrowski, (Rtd.) U.S. Navy, and John J. Garstka, "Network-Centric Warfare: Its Origin and Future", *Proceedings of the Naval Institute*, 124:1 (Jan. 1998): 28-35. Modified by author.

In simple terms, the final architecture of the CEC is expected to provide the US Navy with three key capabilities...

First, CEC enables multiple ships, aircraft, and land-based air-defense systems to develop a consistent, precise, and reliable air-track picture. Second, it allows combat system threat-engagement decisions to be coordinated among battle group units in real time. Third, CEC will distribute fire-control-quality targeting information, when available, among units in the force so that one ship or aircraft might be able to engage threat aircraft and missiles even if it does not have targeting data on its radars locally. These key capabilities will allow Navy units to

engage very difficult targets successfully--including low-flying, supersonic cruise missiles.¹⁷³

The CEC thus provides an interlinking of the various individual networks and as a result generates a 'comprehensive - extended-reach/ information-rich' (C-ER/IR) operational picture which 'captures' the battlespace and which can be shared by any battlespace entity that may be a part of the operation. Indeed, fresh battlespace entities could be cued into or exited from the active battlespace without any lengthy pre or post operational briefing. Collectively, this allows for a much shorter engagement timeline thus enabling the tempo of the battle not only to be maintained but also to be increased, thereby dislocating (alternatively disrupting) an adversary's OODA cycle.¹⁷⁴

While the CEC is primarily a US Navy project, the strategic intent behind the concept of the CEC is a common thematic within the emerging US military posture and of the NCW project as a whole. It is conjectured that an ideal state of affairs would have multiple CEC-type Grids with multiple capabilities interlinked with each other across the globe, which would resemble a gigantic fishnet within which the 'unknown unknowns',

¹⁷³ Daniel Busch, Capt., US Navy, PEO TSC and Conrad J. Grant, "Changing the Face of War: The Cooperative Engagement Capability", March 2003. Available at http://www.cci.co.za/deployment/face_of_war.html. Last accessed on July 28, 2004. See also "Cooperative Engagement Successfully Demonstrated at Sea", US DoD News Release, March 6, 2001. Available at http://www.defenselink.mil/releases/2001/b03062001_bt097-01.html. Last accessed on July 28, 2004.

¹⁷⁴ Vice Admiral Arthur K. Cebrowski, (Rtd.) U.S. Navy, and John J. Garstka, "Network-Centric Warfare: Its Origin and Future", *Proceedings of the Naval Institute*, 124:1 (Jan. 1998): 28-35 Available at <http://www.usni.org/Proceedings/Articles98/PROcebrowski.htm>. Last accessed on July 28, 2004.

as noted by Secretary Rumsfeld, would be reduced, at the very least, to 'known unknowns'.

A number of inferences can be drawn from the above. First, the development of the Grid (the CEC being the most material example) may be understood as being an attempt to reduce the uncertainty principle that has always afflicted the conduct of war. It aims to reduce the traditional Clausewitzian friction within one's own forces by creating an adaptive C2 structure thereby making the C2 functions more fluid and decentralized. Second, it aims to create a mesh of networks that would make the calculation and computation of the potentiality of the emergence of threats, their location and their neutralization a much easier task than hitherto possible. In other words, the Grid would or should be able to generate 'dominant battlespace awareness', the maintenance of which would result in the perpetuation of the production and retention of 'dominant battlespace knowledge', an act which would deny an adversary the advantages of the same. Third, collectively, such an operational stance implies that a networked military would have to be geared to engage in what has been characterized as 'JIT Warfare' (Just-in-Time, a concept borrowed from advanced production and inventory planning¹⁷⁵). JIT Warfare implies that...

¹⁷⁵ "JIT (Just-in-Time) manufacturing is a Japanese management philosophy applied in manufacturing. Essentially it involves having the right items with the right quality and quantity in the right place at the right time ... developed and perfected within the Toyota manufacturing plants by Taiichi Ohno in the early 1970s." See 'Operations Research – JIT Production Systems', Available at

...in future information wars...reconnaissance, strike, and defence would be coordinated in battles fought as “meeting engagements” where both sides are on the offence...forces need no longer to be massed prior to attack...Not being able to sense where the attack is going to come from - because it would come from everywhere at any time – takes away the other side’s initiative.¹⁷⁶

In the context of our discussion of the Grid and of JIT warfare, it is important to note the significance of the emergence of operational concepts such as ‘effects-based operations’ (EBO) and ‘swarming’. These complement the emerging military posture within the framework of NCW. Thus, for example, while “swarming is seemingly amorphous...it is a deliberately structured, coordinated, strategic way to strike from all directions by means of a sustainable pulsing of force.”¹⁷⁷ This represents one of the best illustrations of how the strategy of NCW is evolving. It is necessary to point out that despite the cutting-edge revisionist work being done in the NCW area there still remains a strong residual interest in the popular AirLand Battle Doctrine which, despite refinements, essentially remains mass-oriented.¹⁷⁸ However, as the NCW phenomenon and the related technologies mature, a radically ‘new’ doctrine may very soon replace it. This is the doctrine of the ‘battleswarm’.¹⁷⁹ Eminently suited for

<http://www.dal.ca/~qhe/ie113398/jit.html>. Last accessed on July 28, 2004. See also Taiichi Ono, *Toyota Production System – Beyond Large Scale Production*, (Univ. Park, IL: Productivity Press, 1988).

¹⁷⁶ James Hazlett, “Just-in-Time Warfare”, in *Dominant Battlespace Knowledge*, pp 115-116.

¹⁷⁷ John Arquilla & David Ronfeldt, *Swarming and the Future of Conflict*, DB-311-OSD, (Santa Monica, CA: RAND Publications, 2000), p 5 of PDF. Available at <http://www.rand.org/publications/DB/DB311/>. Last accessed on July 28, 2004.

¹⁷⁸ *Ibid.* p viii.

¹⁷⁹ It is interesting to note that the concept of ‘swarming’ is not a ‘new’ concept in the sense that the natural world seems to abound with examples of swarming. Thus, the futuristic picture described is gained from an

network-centric operations, 'battleswarms' can be conceptualized as small, well-informed and lethal units, which are intricately linked to each other, exercising a deployment flexibility unobtainable in mass-oriented conventional formations, across the spectrum of battle. They would have an omni-dimensional operational capability and be capable of a high degree of automated and synchronized actions. Given the progress evident in the development of UAVs (unmanned aerial vehicles), UCAVs (unmanned combat aerial vehicles), pilotless drones and other robotic instruments of war,¹⁸⁰ it is not inconceivable that in the very near future 'swarm units' would literally be 'machinic' entities.¹⁸¹ The network architecture that would connect these units would be highly robust, fluidly mobile and would display an unparalleled degree of 'native intelligence', which would be instrumental in making them highly adaptive to a rapidly

observation of a 'swarm of bees'. Other examples, such as the behaviour displayed by piranhas, fire ants, and fire flies, are equally applicable. Examples of 'swarming' are also present in early examples of war, such as those exhibited by the Mongols in the early 13th Century. For an extended discussion of swarming in the context of NCW, see John Arquilla & David Ronfeldt, *Swarming and the Future of Conflict*, DB-311-OSD, (Santa Monica, CA: RAND Publications, 2000). Available at <http://www.rand.org/publications/DB/DB311/>. Last accessed on July 28, 2004. See also H. Van Dyke Parunak, "Making Swarming Happen", Alturum Institute, Paper Presented on the Conference on Swarming and C4ISR, Tyson's Corner, VA. Jan. 2003. Available at <http://www.irim.org/~vparunak/MSH03.pdf> Last accessed on July 28, 2004. See also Sean J. A. Edwards, *Swarming on the Battlefield: Past, Present, and Future*, MR-1100-OSD, (Santa Monica, CA: RAND Publications, 2000). Available at <http://www.rand.org/publications/MR/MR1100/>. Last accessed on July 28, 2004.

¹⁸⁰ Noah Shachtman, "Revenge of the Killer Drones", in *Wired News*, April 1, 2004. Available at <http://www.wired.com/news/technology/0,1282,62893,00.html>. Last accessed on July 28, 2004. See also US Office of Naval Research, Science & Technology – Human Systems, 'Biorobotics'. Available at http://www.onr.navy.mil/sci_tech/personnel/342/ne_biorobotics.asp. Last accessed on July 28, 2004. See also Prieditis, Dalal et al, "Smartswarms: Distributed UAVs that Think", Lookahead Decisions Inc., Power of Information Age Concepts, 2004 Command and Control Research Technology Symposium, San Diego, CA.

¹⁸¹ 'Machinic', a term originally coined by Gilles Deleuze, refers to the overall set of self-organizing processes in the universe. See Deleuze and Guattari, *A Thousand Plateaus – Capitalism and Schizophrenia*, Trans. Brian Massumi, (London, UK: Continuum, 2003), pp 88-90. In the context of this study, 'machinic' refers to the Deleuzian concept and includes, but is not limited to, the fusion of the human and the machine, which is popularly known by the label of 'cyborg'. I have opted for 'machinic' over cyborg, as it captures the composite processes and natures of 'swarm units'.

evolving battlespace.¹⁸² It is interesting and instructive to note that while battleswarms, as described above, may yet be futuristic, closely related ideas are being worked out by the US Marines and certain elements of the US Army.¹⁸³

In the event that the doctrine of ‘battleswarms’ and similar concepts are actualized in an operationally deployable form two things, as a result, will be observable. First, a radical reorientation of the organization of the military will be increasingly effected. Not only will it involve restructuring the command chain, it will also involve changing the way in which traditional fighting formations are raised, organized and maintained. As a result, newer logistical paradigms will also have to be devised, as will the processes involved with their equipping and training.¹⁸⁴ These changes will, as a consequence, transform not only the military but will also redefine the nature of tasks that the military will perform in the future. In this connection, it is also pertinent to point out that the nature of planning will also change. While traditionally planning

¹⁸² In this connection, it worth recalling Licklider’s original formulation as presented in his landmark paper “Man-Machine Symbiosis” (March 1960). In it, Licklider had presciently noted: “...The hope is that in not too many years, human brains and computing machines will be coupled...tightly, and that the resulting partnership will think as no human brain has ever thought...” See J.C.R. Licklider, “The Computer as a Communication Device” and “Man Computer Symbiosis” in *In Memoriam: J.C.R. Licklider 1915-1990*, (Palo Alto, CA: Systems Research Center), August 1990. Available at <ftp://gatekeeper.research.compaq.com/pub/DEC/SRC/research-reports/SRC-061.pdf> Last accessed on July 28, 2004. Also quoted in Hafner & Lyon, *Where Wizards Stay Up Late – The Origins of the Internet*, (New York, NY: Touchstone Books, 1998), p 35.

¹⁸³ See Sean J. A. Edwards, *Swarming on the Battlefield: Past, Present, and Future*, MR-1100-OSD, (Santa Monica, CA: RAND Publications, 2000). Available at <http://www.rand.org/publications/MR/MR1100/>. Last accessed on July 28, 2004. pp 65-85. Edwards identifies the US Army’s Force XXI and the AAN (Army After Next) as relevant examples.

¹⁸⁴ John Arquilla & David Ronfeldt, *Swarming and the Future of Conflict*, pp70-72. Available at <http://www.rand.org/publications/DB/DB311/>. Last accessed on July 28, 2004

processes have occurred at the various levels of command, under the changing conditions and given the fact that the ‘levels of strategy’ as identified by Luttwak are gradually collapsing, ‘dynamic planning’ will gain precedence.¹⁸⁵ Dynamic planning will be more oriented towards individual missions, organized around a common thematic – usually defined by the COP - as opposed to the campaign-planning processes that military organizations have traditionally engaged in. This marks the change in the nature of the act of planning per se. It would become more fluid, contextual and consequently would rapidly evolve in tandem with evolving situations.¹⁸⁶ It is also likely that dynamic planning processes would be highly automated to maintain and enhance the sensor-to-shooter link in a bid to retain a dominant position on the battlefield.

Second, and consequent to the above, the traditional distinction between strategy and tactics will increasingly collapse. We have already noted the emergence of concepts like JIT Warfare, where forces will remain deployed, ‘virtually’. In other words, across the multitude of CEC networks (collectively the Grid), forces will remain in a state of readiness, poised to engage with threats at insignificant lead times.¹⁸⁷ Moreover, the presence of active sensors – long and short range – cued directly into

¹⁸⁵ Alberts, Gartska, Stein, *Network-Centric Warfare – Developing and Leveraging Information Superiority*, p 75.

¹⁸⁶ Recall in this context the *Auftragstaktik* practiced by the German Army in the two World Wars. In today’s context, the Israeli military uses these methods, albeit within the limits and constraints of available and deployable technologies. See Alberts, Gartska, Stein, Signouri, *Understanding Information Warfare*, p 171.

¹⁸⁷ James Hazlett, “Just-in-Time Warfare”, in *Dominant Battlespace Knowledge*, pp 115-116.

weapon-platforms will act as more than early-warning posts. They will be the 'new' frontline. Significantly, given that the sensors and their associated weapon-platforms will be deployed in an omni-directional manner, the frontline will also be omni-dimensional and thus, 'everywhere'. On the same note, 'swarm units', as and when they become fully operational (in terms of doctrine and technology), will represent a disaggregated and dispersed fighting machine, which will already be in a (virtual) state of war. Under these conditions, the act of strategizing, marked by the traditional practice of marshalling and deploying the necessary means to further state policy, will have very little meaning. The implicit offensive posture of the networks in which such battlespace entities will be located will, as a consequence, ensure that warfare will be more of a 'running battle' or a 'continuous engagement' between numerous networks rather than the traditional attrition-style engagements between masses of weapon-platforms.¹⁸⁸ Given that the computing and networked power of networks will have increased exponentially (all things remaining constant) the perception of threats, calculating their lethality and devising adequate responses to them will be instantaneous or as close to Real-Time as possible. This draws us closer to a condition wherein

¹⁸⁸ Samantha L. Quigley, "Transformation Chief Outlines Strategy for New Battlefield", American Forces Press Service, Aug. 5, 2004. Available at http://www.defenselink.mil/news/Aug2004/n08052004_2004080504.html. Last accessed on August 6, 2004. In the article, Admiral Cebrowski notes the inverted relationship between the 'strategically offensive' and 'operationally defensive' force-posturing required for the 'new' battlefield. It is interesting to note that if a force is 'strategically offensive' in orientation then its ability to be 'operationally defensive' is open to question. Moreover, being 'strategically offensive' in orientation resonates loudly with the idea of a force that is in a 'virtual' state of war.

continuous and evolving tactics rather than the traditional set-piece act of strategizing will be the order of the day.

The Second Order

Previously, we discussed a number of devices and means by which the actualization of the phenomenon of NCW is occurring. The emphasis, as we have seen, is on collapsing time, creating common operational pictures (COPs) to ease the complexities involved with C2 functions, and attempting to alleviate the trials and tribulations resulting from the inherent non-linearity of our environment. Collectively, these efforts may be understood as being examples of pragmatic attempts (by leveraging the power of ICTs) being made to reduce the problems associated with the conduct of war.¹⁸⁹ However, it is also possible, in an abstract sense, to note the emergence of another phenomenon, which has shadowed the emergence of NCW.

We saw how the technologisation of discourse is necessary for facilitating the instantiation of a COP. We also noted that when cast against the framework of the networked environment, with its concomitant paths of information-flows, the technologisation of discourse is instrumental in reducing the ‘textures’ of information to facilitate its flows

¹⁸⁹ Alberts, Gartska, Stein, *Network-Centric Warfare – Developing and Leveraging Information Superiority*, p 84.

through the circulatory channels which have, in turn, assisted in giving material form to the common interfaces between the human and the computer.¹⁹⁰ If we linger on this issue for a while, we can better appreciate the degree of standardization that ensues and the implications that stem from it. In the context of battlespace entities, we find that without this standardization, it would be impossible for these entities, especially their constitutive agents, to function. This would, in turn, result in the disintegration of the very bedrock on which the phenomenon of NCW has found its material manifestation. In this connection, it is important to note that the reference here is not specifically to the ‘richness’ of information, but also to the underlying dynamics of the flows of information that are being increasingly standardized.¹⁹¹ However, even in the context of the ‘richness’ of information, the element of standardization is evident in the fact that there are parameters which define the ‘richness’ of the information and consequently, the “incorrigible recidivism” that Dillon marks with reference to words, and by extension to language, is missing.

¹⁹⁰ Martin Libicki, *The Mesh and the Net – Speculations on Armed Conflict in a Time of Free Silicon*, p 129. Libicki, in this context, refers to the ‘universal translatability’ that the impact of ICTs are having and will have in the future. It is interesting to note that the concept of ‘universal translatability’ as applicable to machine-to-machine interactions is as it is to human-to-machine and human-to-human interaction, facilitated by a mesh of networks. See also Vice Admiral Arthur K. Cebrowski, (Rtd.) U.S. Navy, and John J. Garstka, “Network-Centric Warfare: Its Origin and Future”, *Proceedings of the Naval Institute*, 124:1 (Jan. 1998): 28-35 Available at <http://www.usni.org/Proceedings/Articles98/PROcebrowski.htm>. Last accessed on July 28, 2004. Admiral Cebrowski writes: “...at the planning level, the elements of a DoD-wide intranet are emerging. To assure interoperability, all elements of the Grids must be compliant with the Joint Technical Architecture and the Defense Information Infrastructure common operating environment. However, their full integration into a more powerful warfighting ecosystem is only partially complete....” The admiral cites the CEC as the primary example of such activities.

¹⁹¹ See, for example, “The Semantic Web Foundations of Net-Centric Warfare”, White Paper, McDonald Bradley, Inc., Jan. 2003. Available at <http://www.mcdonaldbradley.com/comps/white%20papers/The%20Semantic%20Web%20Foundations%20of%20Net-Centric%20Warfare.pdf>. Last accessed on July 28, 2004.

We cannot, therefore, help but recognize that the instruments which are actively assisting the phenomenon of NCW to manifest its material instantiation also collectively operate as agents for a subtle but grand totalizing project. While being a subject of interest, the question as to whether it is a project driven by intentional agents or not, lies outside the scope of this study. Suffice it to say that this grand totalizing project is visible and it does draw our attention to the fact that in the urge to refine the conduct of war, there may have emerged a phenomenon, which has not only trapped us in a space in which we are being increasingly constricted by, among other things, the rapid advances of technology, but which has also changed the very nature of war.

Take, for example, the words of Libicki who, as we have seen, in the context of tactical and strategic sensors, wrote that "...a sufficiently fine web can...catch anything..."¹⁹² At one level we can understand this to mean that since a CEC network is a combination of three different kinds of networks (of sensors, information, and engagement), the possibility of any threat evading the mesh of a large number of CEC networks is rather limited. In this sense, it also inhibits the emergence of threats from within the mesh of networks. This implies that if threats do emerge, they will do so outside the mesh of networks that collectively comprises the CEC. Moreover, given that everything (at least hypothetically) within the mesh

¹⁹² Martin Libicki, *The Mesh and the Net – Speculations on Armed Conflict in a Time of Free Silicon*, pp 30-31

of nets can be targeted and neutralized, then for the threats to remain viable, they not only have to remain outside the mesh of networks, but they will also have to possess and/ or devise the ways and means by which they can evade them. Thus far Libicki's words remain relevant within the confines of a purely military context.

Now, recall again, in this context, our discussion on the technologisation of discourse. Aside from the fact that it facilitates the instantiation of COPs, which are one of the fundamental building blocks of CEC networks, we have also explored how the technologisation of discourse results in the limiting of the 'conditions of possibility'. If the technologisation of discourse is understood as occurring within and by means of the mesh of networks, then we can also conclude that network materially limit the 'conditions of possibility'. In other words, nothing that is possible can or could occur outside the mesh and spread of networks. In this sense the emergence of potential threats is limited to the space defined by the mesh of networks, rather than from any space outside it. This, albeit at a simplistic level, also implies that the mesh of networks will be able to precisely calculate and prioritize the threats from the moment of their instantiation and will be able to counter them at a time and place of its choosing. There is nothing very esoteric about this. The procedure and processes involved would be very similar, if not the same, to those used by the mesh of networks to address purely military threats. The problem,

however, lies in how the threat is determined and who or what constitutes the threat.

As we have seen, in the Age of Information, the technologisation of discourse is based on the project of digitalizing language. This suggests that the uncanniness of language - manifested by its rich and varied textures – is now susceptible to being reduced, ultimately to a binary state, and stored in an easily retrievable and contextually relevant and presentable manner. In this connection, the most recent developments in the fields of bio-metrics and pattern-recognition are instructive and relevant.¹⁹³ The reduction of the ‘conditions of possibility’ to code (alternatively, language to digital code) allows for the potentiality of the emergence of threats to become wholly susceptible to pre-emptive programming which would be preventive, or at the very least, combative in nature. Under these conditions, the identification of threats becomes a matter of computation and thus predictive.

The definition of ‘effects-based operations’ (EBOs), which we have considered as being one of the manifestations of the strategies of NCW, in this context, is instructive. EBOs, it is contended, are a “coordinated sets of actions directed at shaping the behaviour of friends,

¹⁹³ See Jain, Pankanti et al, “Biometrics – A Grand Challenge”, To appear in *Proceedings of International Conference on Pattern Recognition*, Cambridge UK, August 2004. Available at <http://biometrics.cse.msu.edu/biometricsgrandchallenge.pdf>. Last accessed on August 11, 2004.

neutrals, and foes in peace, crisis and wars.”¹⁹⁴ The definition is instructive in the sense that it considers ‘friends’, ‘neutrals’ and ‘foes’ in the same light – those whose behaviour in conditions of peace, crisis and wars must be directed. Thus, the traditional binary between ‘friend’ and ‘foe’ is made contingent on the basis of whether an ‘entity’ behaves like a ‘friend’ or a ‘foe’, which is understood in terms of a behaviour-pattern which falls within a parametric band of ‘acceptance’. In other words, the categories of ‘friends’ and ‘foes’ are dependent on pre-calculated contexts, in much the same way as the digitalization of language reduces the texture of language to a binary, which if considered in terms of presentation and re-presentation, is also context-dependent. It is significant to note that the only contingency that is of relevance here is that of danger and of ‘becoming dangerous’.¹⁹⁵ Danger here may be understood as any activity or action (including their potentiality) that is destabilizing. This is very relevant in the case of the mesh of networks.

We have already seen how networks and the mesh of networks behave like complex adaptive systems. Further, we have also seen how the presence of the individual constitutive agents within complex adaptive systems is contingent on their ability to maintain their individual equilibrium within the systems, thereby contributing to the general

¹⁹⁴ Edward A. Smith, *Effects Based Operations – Applying Network Centric Warfare in Peace, Crisis and War*, Information Age Transformation Series, (Washington, DC: US DoD, CCRP, 2003), p 108.

¹⁹⁵ Personal discussion and exchange of emails with Prof. Michael Dillon, Lancaster University, Aug. 4, 2004.

stability of the system. Consequently, if an agent within a complex adaptive system is unable to maintain its equilibrium, it is removed. It is only by doing so that the complex adaptive system can guarantee its own continued presence. The process is the same within the mesh of networks. To forestall the destabilization of the mesh of networks it must, therefore, continually act in a colonizing manner, seeking out spaces which are not covered by it and by limiting the 'conditions of possibility' (by standardizing and/ or making everything within its ambit computable) and thus the threats to it. In this way the mesh guarantees its own security in terms of its integrity and equilibrium. From the perspective of the constitutive elements within the mesh of networks, however, the ontological condition is one of continual danger. It is dangerous because, as we have seen, any activity that could disturb the native equilibrium of the mesh of networks would invite total and complete destruction.¹⁹⁶ The options are few, for as Libicki puts it, 'a sufficiently fine web can...catch anything'.

¹⁹⁶ Admiral Cebrowski's formulation, in this context is instructive He makes the point that being 'disconnected' is to be in danger. Note how this formulation works both ways – in terms of 'securing' from danger *and* 'interdicting' the source of such a danger. . See Speech to Network Centric Warfare 2003 Conference, Jan., 22, 2003. Available at http://www.oft.osd.mil/library/library_files/speech_143_CEBROWSKI%20SPEECH%20TO%20NETWORK%20CENTRIC%20WARFARE%20CONFERENCE.doc. Last accessed on July 28, 2004.

NCW: ...and here is the beef...

This investigative overview, which has spanned across a variety of sites and registers, indicates that the semi-official and official documentation that records the emergence and dynamics of the NCW phenomenon are quite optimistic about the potential of NCW as being the 'new' way of war. There are valid reasons for this optimism. If the introduction of ICTs can dramatically enhance combat effectiveness thereby shortening the duration of war, then their deployment, to limit the evils of war, would seem logical and indeed welcome.¹⁹⁷

As we have seen, the phenomenon of NCW closely analyzes the traditional dynamics of war and uses ICTs to dramatically quicken the associated processes. Thus, we see the shortening of decision-making cycles, the creation of seamless sensor-to-shooter links, the deployment of advanced sensors linked directly to vast information processing, analyzing and fusion systems as being material advances in the area of NCW. This, in turn, has yielded multi-faceted results. Thus, for example, while on the one hand, as the traditional C2 functions become increasingly digitized and linked in near real-time to a wide array of powerful sensors, thereby increasing their efficiency, on the other, it has also brought about a corresponding decentralization in the C2 hierarchy. Consequent to this, there is a growing recognition that the decentralized model of C2 systems is better suited to contend with the complexity, non-linearity and the rapid tempo that characterizes the conduct of war, a fact attested to by, among others,

¹⁹⁷ Alberts, Gartska, Stein, Signouri, *Understanding Information Warfare*, p 285.

Clausewitz. The increasing emphasis on decentralization is also bringing in its wake a change in the organizational dynamics of the military. This, in turn, is having a cascading impact on the development of military strategies and doctrines. It would not be a mistake, therefore, to state that the way that warfare is organized and conducted is also undergoing a change.

But, as we have seen, all this did not happen suddenly or in a vacuum. The growing recognition of the inherent complexity and non-linearity of our environment and the emergence and viral spread of ICTs were the results of frenetically creative periods within the commercial and scientific-technological worlds. Further, we find that the incorporation of these technologies and sciences into the military sphere is not a singular result of the advent of the Age of Information. By sifting through any account of history we can find examples of how science, technology and the military have found common grounds from where they have shared their individual insights. The same also applies to the world of commerce. In this way, we can identify a symbiotic relationship that enmeshes the military, technology, and commerce.¹⁹⁸

It is equally valid to state that the scientific-technological developments that have accrued over time and which are now being manifested in the Age of Information have also had a significant impact in the socio-economic (alternatively, non-military) environment. The dynamics of these changes may be understood in the way value is now being reconstituted. The value chain analysis

¹⁹⁸ Manuel de Landa, *War in the Age of Intelligent Machines*, p 5.

propounded by Michael Porter, whose ideas we have examined earlier, stand testimony to this. The trickle-down effects of these developments have also affected the social world.¹⁹⁹ The rise of ICTs has significantly opened up the information-sphere, rivaling the physical and cognitive domains, which is a vast terrain within which we are being increasingly absorbed.²⁰⁰ Collectively, this has resulted in a meshing of worlds as a result of which the traditional divisions between the economic and social worlds are being increasingly blurred as advanced ICTs collapse the common-place conceptions of time and distance. Indeed, ICTs have, to a large extent, re-territorialized the world that we live in.²⁰¹ They have “put people and information in close electronic contact with each other.”²⁰² As a consequence, they have also had an influential impact on our discursive practices. Foucault has shown us the traditional role of discursive practices in acts of power formation. This, as illustrated by Foucault, has long been recognized by institutions which have strained to control these activities in their bid to monopolize power. In the Age of Information, discursive practices have assumed an importance which is qualitatively different from the societies investigated by Foucault. Language and discourse have been recognized as being the key pivots of the Information Age. To ensure that the project of digitalization

¹⁹⁹ See, for example, Howard Rheingold, *Smart Mobs: The Next Social Revolution*, (New York: Basic Books, 2003) and his *Virtual Reality: The Revolutionary Technology of Computer-Generated Artificial Worlds - and How It Promises to Transform Society*, (New York: Simon & Schuster, 1992). See also Sherry Turkle, *Life on the Screen: Identity in the Age of the Internet*, (New York: Simon & Schuster, 1997)

²⁰⁰ Manuel Castells, *The Rise of the Network Society, The Information Age: Economy, Society and Culture Vol. 1*, (Oxford, UK: Blackwell Publishers, 1996), pp 469-478.

²⁰¹ Martin Libicki, *The Mesh and the Net – Speculations on Armed Conflict in a Time of Free Silicon*, p 11.

Libicki notes how the impact of the information revolution has “rendered large chunks of the West’s workspace unrecognizable”. Re-territorialization is a concept deployed by Gilles Deleuze. See D&G, *ATP*, pp 142-145.

²⁰² *Ibid.* p 126.

of all walks of life and existence is uniform, the technologisation of discourse, which has always lain beneath the surface, has emerged as being a critical factor.²⁰³ The reduction of language to digital code has its resultant implications, the first among which is the limitations imposed on the ‘conditions of possibility’. These and associated changes in the socio-economic and cultural world have also had an impact in matters pertaining to defence and security. Consequently, if, as is contended by many, “war reflect[s] the relationships of individuals, the communities that they form, and the nations that they live in”²⁰⁴ then, it is valid to presume that the emergent principles of NCW reflects the networked nature of modern-day society.

As we have seen, the strategy of NCW, in the Age of Information, is characterized by four themes.

1. The emphasis on the network or the mesh of networks.
2. The emphasis on assemblages rather than on unitary actors
3. The emphasis on understanding military systems and the battlespace as a complex adaptive system which is evolutionary
4. The emphasis on information being the critical currency²⁰⁵

²⁰³ See “The Semantic Web Foundations of Net-Centric Warfare”, White Paper, McDonald Bradley, Inc., Jan. 2003. Available at <http://www.mcdonaldbradley.com/comps/white%20papers/The%20Semantic%20Web%20Foundations%20of%20Net-Centric%20Warfare.pdf>. Last accessed on July 28, 2004.

²⁰⁴ Martin Libicki, *The Mesh and the Net – Speculations on Armed Conflict in a Time of Free Silicon*, p 126

²⁰⁵ Michael Dillon, “Network Society, Network-Centric Warfare and the State of Emergency”, in *Theory, Culture and Society*, (London/ New Delhi: Sage Publications), 2002. Vol. 19 (4): 71-79.

In this connection, it is interesting to note that there has been a suggestion that NCW is not about networks, it is more about networking.²⁰⁶ The ‘power’ of NCW, it has been contended, is derived from the complex and intricate linking of ‘knowledgeable entities’ which results in increased combat power. This is misleading. At the conceptual level, NCW is all about networks. Combat power, in the NCW context, is wholly dependent on the network. But this is not because weapon-platforms, sensors, and ultimately decision-making systems are being increasingly embedded within networks - rather, it is because the network finds certain modes of expression through such systems and platforms and their capabilities. Recall, in this context, the ‘native intelligence’ of ‘networks’ that Baran’s investigations helped us identify (and which we can expect to grow exponentially, with advances in neural network programming, evolutionary programming,²⁰⁷ and other advances in bionic systems²⁰⁷). The interlinking of these platforms and systems is the function of this native intelligence, rather than any conscious ‘networking’ done externally.²⁰⁸ Thus, the wider, deeper, richer and denser the network is, the greater would be its combat power and resilience. This also faithfully adheres to the principle of the ‘sum of the parts being greater than the whole’.

²⁰⁶ Alberts, Gartska, Stein, *Network-Centric Warfare – Developing and Leveraging Information Superiority*, p 8.

²⁰⁷ For example, see the ‘Human Assisted Neural Devices’ Program at DARPA. “The program will create new technologies for augmenting human performance through the ability to noninvasively access codes in the brain in real time and integrate them into peripheral device or system operations.” Available at <http://www.darpa.mil/dso/thrust/biosci/brainmi.htm>. Last accessed on July 28, 2004.

²⁰⁸ See Thomas, K. Adams, “Future Warfare and the Decline of Human Decision-Making”, *Parameters*, US Army War College Quarterly, Winter 2001-02, pp. 57-71. Available at <http://carlisle-www.army.mil/usawc/Parameters/01winter/adams.htm>. Last accessed on July 28, 2004. Adams writes: “We are faced with the prospect of equipment that not only does not require soldiers to operate it, but may be defeated if humans do attempt to exert control in any direct way.” Under such, admittedly futuristic circumstances, one wonders what element of ‘networking’, as a conscious and planned activity, would survive.

These issues collectively point to the dissolving of the categories by which we have thus far understood war and its conduct. The dynamics of NCW as evidenced by the thematics of its strategy points to the fact that in the networked environment, which among other things, is characterized by the changing nature of value and the processes of value-creation, the geo-physical acquisitive intent that has been the traditional logic underlying wars has also undergone a qualitative change.²⁰⁹ In turn, this has also initiated, as we have seen, a change in how threats are perceived. The calculus that determines threats now recognizes them as disruptive elements which possess the ability to destabilize the network or mesh of networks. This calculation is based on the level of disruption that a threat can pose to the informative-intensive network.

As a result, we find that the phenomenon of NCW which is emerging, among other things, as a response to the need to make the conduct of war more efficient and less destructive, is simultaneously also disclosing a parallel and more forbidding face. Given that the material success of NCW lies in the presence of a plethora of highly advanced sensors interlinked with each other which are constantly on the lookout for signs of the emergence of threats, it is therefore not surprising that we can identify the emergence of a culture of 'omnipresent danger'.²¹⁰ Additionally, the technologisation of discourse, which is rapidly circumscribing the 'conditions of possibility', is resulting in a condition that

²⁰⁹ Michael Dillon, "Network Society, Network-Centric Warfare and the State of Emergency", in *Theory, Culture and Society*, (London/ New Delhi: Sage Publications), 2002. Vol. 19 (4): 71-79

²¹⁰ Noel Schachtman, "Big Brother Gets a Brain – The Pentagon's Plan for Tracking Everything that Moves", *Wired News*, July 9-15, 2003. Available at <http://www.villagevoice.com/issues/0328/shachtman.php>. Last accessed on July 28, 2004.

suggests that nothing outside the network or mesh of networks should be possible. The implicit totalizing aspects of NCW, in this, will not be missed. This, as we shall see, leads us to conclude that the Deleuzian observation of the radical shift from 'disciplinary societies' to 'controlled societies' is vindicated.²¹¹ It is also indicative of the transformations underway in our understanding of the phenomenon of war in the Age of Information.

²¹¹ Gilles Deleuze, *Negotiations*, pp 177-182.

Interlude

War and Clausewitz in the Age of Networks or,

*...Your past is your future...*²¹²

As seen previously, the martial theorists of the Enlightenment and Early Romantic periods - dazzled by the promise of Reason - had been driven to develop 'models' of war and its conduct based on a calculus that was highly rationalistic in its design, processes and outputs. Against this backdrop, the Clausewitzian theory of war may be considered as being a maturation of these efforts. Like Kant who built an architectonic of Reason, Clausewitz built an architectonic of war within Reason (in the form of the State as the Political). Like its Kantian counterpart, the Clausewitzian architectonic thus appealed...

...to the continuity of time in order to counterbalance or dilute the violent, heterogeneous threshold of sensation, so as to see it in terms of degrees and thus make it measurable and calculable. The advantage [was] considerable. Henceforward everything which seemed impossible to master within the sensible, all that Descartes, in the example of the piece of wax, abandoned to the imagination (its heated liquid form, its honey-like aroma), everything becomes, thanks to the idea of a specific degree of sensation, an object of possible knowledge.²¹³

²¹² Black Sabbath, "Computer God", in *Dehumanizer*, 1992

²¹³ Juliette Simont, "Intensity, or: the 'Encounter'", in *An Introduction to the Philosophy of Gilles Deleuze*, Ed. Jean Khalifa, (London: Continuum, 2003), p 32

In this way, the vagaries of chance and force (the nature of war) were deemed mitigated, or at least contained, by Reason. But the Clausewitzian architectonic was also careful to temper this enthusiasm with the Kantian recognition that even Reason had to accept its limits - antinomies – by posing questions to which Reason, as Pure Reason, had no answers. Thus, we were able to identify the tense grid of chance/ uncertainty, blind natural force, and politics with and within which the Clausewitzian theory of war bound itself.

Of course, the key consideration remained the mitigation of chance and blind natural force. Clausewitz, we noted, was concerned with two principal issues in his problematization of War. First, with reference to the *conduct* of war, Clausewitz was concerned about *Friktion* which, as Watts points out, "...has a long historical lineage. It predate[d] Clausewitz by centuries and has remained a stubbornly recurring factor in combat outcomes right down to the 1991 (now, 2003) Gulf War."²¹⁴ As we have seen, "[t]he concept of friction is not just a statement that in war things always deviate from plan, but a sophisticated sense of why they do so."²¹⁵ This is certainly true of Clausewitz's concern/ interest in *Friktion*. It reflects a deeper understanding of the anterior nature of Chance and Uncertainty. Indeed, it could even be ventured that Clausewitz's *On War* is nothing less than a martial account of *how* to organize in the face of Chance and Uncertainty. Secondly, Clausewitz was also troubled by the logic of Absolute

²¹⁴ Barry Watts, *Clausewitzian Friction and Future War*, McNair Paper Number 52, , October 1996. Available at <http://www.ndu.edu/inss/McNair/mcnair52/m52cont.html> Last accessed on May 19, 2007

²¹⁵ Alan Beyerchen, "Clausewitz, Nonlinearity and the Unpredictability of War," *International Security*, 17:3 (Winter, 1992), pp. 59-90

War. Indeed, we saw how Clausewitz's concern with Absolute War was focused on its predilection to be in excess of Reason. Thus, he insisted on girding the phenomenon of War with and by the Political.

Clausewitz had suggested that though his architectonic of war did much to break the inflexible models and theories of war and its conduct of his predecessors, it remained akin to a 'game' of 'cards'.²¹⁶ Now, Beyerchen points out that "[T]his analogy suggests not only the ability to calculate probabilities, but knowledge of human psychology in "reading" the other players, sensing when to take risks, and so on."²¹⁷ Thus, Beyerchen concludes that...

...war is not chess; one's opponent is not always playing by the same rules, and is often, in the effort to win, attempting to change what rules there are. This is a major reason that how war is conducted can and does change its character, and that any war is (in Maxwell's sense) structurally unstable.²¹⁸

Beyerchen, of course, ignores the fact that even Clausewitz's analogy of 'war as a game of cards' is not structurally unstable and that the participants in a game of cards (or, for that matter, chess) necessarily play by rules - indeed by a commonly agreed upon set of rules - which each may choose to observe (or violate). Thus, while dissenting from the general point that Beyerchen makes - that Clausewitzian war is structurally unstable - this study makes the case that the Clausewitzian theory of war - indeed our modern theories of war and the military

²¹⁶ Clausewitz, *On War*, pp. 85-86

²¹⁷ Alan Beyerchen, "Clausewitz, Nonlinearity and the Unpredictability of War," *International Security*, 17:3 (Winter, 1992), pp. 59-90

²¹⁸ *Ibid.*

- is as much of a 'game' of cards as it is of chess.²¹⁹ Note that what is being contested is not the specificity of the 'game' - cards or chess - that is being played. Rather, it is the 'game' itself that is of interest and relevance to us.²²⁰

The Clausewitzian understanding of war, like Chess, is one that spreads across a grid and operates along and around certain critical points pertaining to that grid. Primary among them are the following:

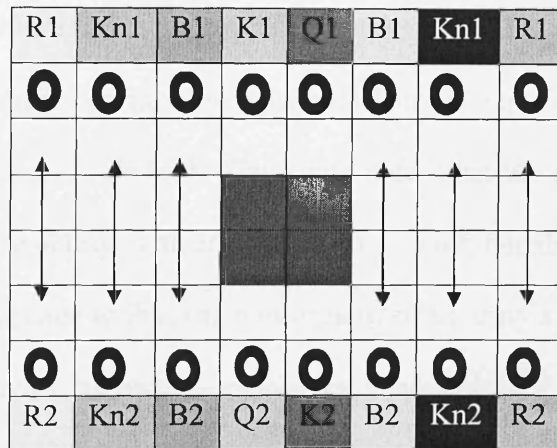


Figure 12: The Grid of Chess
Image by Author

1. The set of red squares at the center of the board represent the 'heartland' of the game of chess. A cursory appreciation of the strategy of Chess reveals that these four squares are critical in and for the game and controlling them, that is to say, denying them to an opponent allows a player to gain and retain a strategic

²¹⁹ Note: One of the principle accusations levied against Jomini was his consideration of war as a giant chess game. As the following discussion will show, the same may also be said of Clausewitz.

²²⁰ Safranski, in his philosophical biography on Nietzsche suggests that "[D]uring his final weeks in Turin, however, he (Nietzsche) shed the inhibitions that are necessary even for games... This lack of restraint could no longer be considered a "game," because the player had forfeited his sovereignty." See, Rugiger Safranski, *Nietzsche: A Philosophical Biography*, Trans. Shelley Frisch, (London: Granta Books, 2002), p 309

advantage in the game. Understood in Clausewitzian terms, these four squares represent the center of gravity of the field of battle and as such is a location or site that determines the strategic direction that the battle will take. Further, it is interesting to note that the player that commands and controls these four central squares also exposes them to enemy action. Thus, the exercise of command and control of these four squares is both a blessing and a curse. It is the former in the sense that controlling them allows a player to control the game, and it is the latter in the sense that articulating its presence simultaneously also reveals its precise location and nature (more on this below) thereby opening up the possibility for it to be attacked. It is significant to note that Clausewitz made much of the center of gravity of an army.²²¹ Indeed, Clausewitz noted that the endgame of any battle depended on the ability of an army to destroy/ annihilate the opponent's center of gravity, and pursuant to this, the *schwerpunkt* of an army's efforts must be geared to – so theorized Clausewitz – ensure the annihilation of the enemy's center of gravity.²²² But equally, Clausewitz also emphasized that defending a center of gravity, historically, has shown to always have a better prospect than assaulting it.²²³ The object(ive) of offensive operations in Clausewitzian terms thus is geared to target and destabilize an enemy by destroying his heartland - his center of gravity. The object of defensive operations, on the other hand, would be to protect this heartland from the destabilizing effects of an enemy's offensive operations and to ensure the pursuit of counter-offensive operations when able. As a point of

²²¹ Clausewitz, *On War*, pp 485-495; pp 595-596. See also Antulio J. Echevarria II, "Clausewitz's Center of Gravity: Changing our Warfighting Doctrine – Again!" (Carlisle, PA: Strategic Studies Institute, U.S. Army War College, 2002)

²²² Clausewitz, *On War*, p 495

²²³ Ibid

passing interest, this aspect of Clausewitz's theory of war found its fullest expression during the Age of Mechanized Warfare wherein strategizing for the operations and counter-operations that would take place around such objectives took precedence over other considerations. Expressed in geopolitical terms, Clausewitz's insistence on the criticality of the center of gravity bears a striking similarity with the controversial theories of geopolitics, the 'heartland' and the 'rimland'.²²⁴

2. Second, the grid of Chess, as mentioned above, spreads across 64 squares. Given this, it could be said that the conditions of possibility of the game of chess are bounded by the 8x8 grid within which the action, so to speak, takes place. In other words, the 8x8 grid of the chessboard is its grid of intelligibility, its *nomos*. When translated in Clausewitzian terms, this grid of intelligibility is that of the political – a point most forcefully reiterated not only by Clausewitz, but also by most subsequent commentators on War and military theory. In other words, Clausewitz's famous trinity of war which, as we have seen, is actually a dyad is held with/in a tense grid of political, but also thanatological, intelligibility. Thus, as in Chess, wherein the moves of the individual pieces are rendered understandable only within the 8x8 grid, the Clausewitzian understanding of war and its instruments – politics, armies, technology, culture, economies etc - are also

²²⁴ "In Defence of the Heartland: Sir Halford Mackinder and His Critics a Hundred Years On", Colin S. Gray, *Comparative Strategy*, Volume 23, Number 1/January/February/March 2004; Halford J. Mackinder, *Democratic Ideals and Reality*. (New York: Norton and Co., 1962); N.J. Spykman, *The Geography of Peace*, (New York: Harcourt Brace, 1944); David J. Lonsdale, "Information Power: Strategy, Geopolitics and the Fifth Dimension." *Journal of Strategic Studies* 22.2-3 (1999): 137-157; Geoffrey Sloan, "Sir Halford Mackinder: The Heartland Theory Then and Now." *Journal of Strategic Studies* 22.2-3 (1999): 15-37.

rendered understandable in the grid of the political which, in one of its more common material manifestations, is the State. War and the State – like the pieces of a chessboard and the 8x8 gridded-space of Chess – thus represent a distinctly martial universe. They are inseparable from each other. They cannot be thought of without each other and in this are self-limiting. Thus, Clausewitz, while tacitly acknowledging the anteriority of chance and uncertainty, struggled to ensure that chaos, uncertainty, and chance – the features that Clausewitz suggests are critical in any study of war - remain within this grid and in this sense, also within the ambit of Reason-as-such. In this way, the taming of chance becomes the *raison d'être* of politics in the form of the state. Deleuze points to this when he speaks of the apparatus of State-science and, in sharp contrast to it, nomadic science.²²⁵

3. Thirdly, one finds on taking an even cursory look at the 'space' of Chess, there is a striking binary function that is operative within it. It is equally important for us to recognize, however, that this binary function is 'reflective' rather than being essential. It is the relationality that the inversion of Vision shares with Vision. This is evident if we look at the arrangement of the pieces on the board. As the figure above demonstrates the pieces labeled R1 (Rook), Kn1 (Knight), B1 (Bishop), K1 (King), Q1 (Queen) are in equal measure reflected on the opposite side of the board - R2 (Rook), Kn2 (Knight), B2 (Bishop), K2 (King), Q2 (Queen). Further it will be noted that each of the pieces, emphasizing their reflective natures, possess and exhibit identical functions. Thus, for example, R1 and R2, which are situated on opposite sides of the board, possess and exhibit the

²²⁵ D&G, *ATP*, pp 361-374

same capabilities which, in the case of the Rook (R 1/2), is the ability to move vertically and horizontally for an unlimited number of spaces relative to the extent and spread of the board. The implication of this of course is that even before the commencement of battle on the board, each of the players can theoretically identify the moves and counter-moves available to the opponent, and the maximum functionality of the opponent's 'army'. The parallels that can be drawn between these elements and the Clausewitzian notion of war are instructive. As in Chess, the point around which the Clausewitzian notion of war revolves is the notion of correspondence between one's own forces and that of the enemy. This correspondence allows Clausewitz to suggest a 'grammar' or logic of (real) war. This grammar or logic of war allows for the plotting and planning – collectively, the strategizing – of battle and by extension of war. Of course, the Clausewitzian notions of the fog and friction of battle/ war do make their presence felt, but as mentioned earlier, these occur only within the grid of intelligibility of war which, in the Clausewitzian case, is the political.

4. Lastly, as we have seen, though each player in a game of chess knows the precise capabilities and functions of the pieces and the layout of the grid of play, the dexterity involved in the movement of the pieces over and above the gridded space is what distinguishes one player from the next. The same is equally applicable to the field of battle and by extension of war, where to paraphrase Napoleon, the Great Captains of War make their presence felt. The realm wherein this dexterity is displayed is, as we have also seen, that of the Genius. What

cannot, however, be denied is the fact that maneuvers, operational dexterity, angles of attack, modes of defence etc. cannot help but be organized in accordance with the laws of the grid of intelligibility (which in this case may be understood as the Laws of Time and Space) that *gestells* not only chess but also war. Thus, equally the Clausewitzian Genius in War remains operative in the gridded space of the political, that is to say, Reason. Clausewitz's Commander (ideally, the Genius) therefore emerges as the Genius of Reason...the *strategos*...the one who commands the signs (of war).²²⁶

For Clausewitz, of course, all this was necessary, but speculative, theory. In NCW terms, however, theory is being increasingly actualized in practice. As we have seen, the foundational principle that underwrites the NCW thesis is that of 'chance, uncertainty and blind natural force' and it organizes itself in terms of a recognition - or of 'sense' understood simultaneously as an ability and a capability - of that what is uncertain, and as an expression, that is to say, as a response - again as an ability and as a capability - in the form of an active engagement with the uncertain. We should be careful not to conflate this rather sophisticated conceptualization of 'sense' and 'response' with the implied reflexivity that we find scattered throughout the Clausewitzian theory of war. Thus, unlike Clausewitz, who kept the Abyss of pure force, chance and uncertainty at bay with a variety of devices, NCW looks into it...co-responds with it...seeks to engage it...by establishing a computable economy of relations with

²²⁶ Dillon in "Intelligence Incarnate: Martial Corporeality in the Digital Age", in *Body & Society*, explains this well.

it. This is nothing less than NCW's attempt to go beyond Reason and to 'make the Abyss its own'. Thus Martin Libicki – a leading and prominent NCW theorist – can assert, albeit in the specific context of strategic and tactical sensors, that “.....even with stealth, everything ultimately can be found.”²²⁷

While the implications of Libicki's words at the level of the material battlefield are chilling enough, they also suggest a meshing of subject-based desires and an inhuman *desire-ability* to catch anything within the cross-hairs of a moving/ morphing/ multi-textured Grid of *response-ability* and *sense-ability*. If this is the operational posture (ideally) necessary for the conception and prosecution of War in the Information Age, then, (to be) NCW (*that is to say, to be martial*) - without uncertainty as is the stated aim of the NCW doctrine - is nothing less than *to be* (*standing-reserve securely*). Naturally, under these conditions, turbulence – at some or any epsilon - is a threat for it entails a disturbance *to be* ('standing-reserve' securely). *In this sense, the emerging theories and doctrines of NCW are a signature of a becoming – a becoming-NCW - which is, paradoxically, the becoming of being (i.e., 'to be') for such is the atrophic logic of NCW.*²²⁸

²²⁷ Martin Libicki, *The Mesh and the Net – Speculations on Armed Conflict in a Time of Free Silicon*, pp 30-31.

²²⁸ Here entropy is used in its most general of understandings as an inherent tendency towards the dissipation of useful energy. See, for example, Eric Dressler, *Engines of Creation: The Coming Era of Nanotechnology*, (New York: Anchor Books, 1987). See also Jeremy Rifkin and Ted Howard, *Entropy: A New World View*, (New York: Viking Press, 1980)

From the perspective of the State as a strategic ensemble, this is a strategic maneuver of the greatest importance for it is effected at the very edge of Reason where strategic ensembles increasingly find themselves - as sites, locales and positions – decomposing into ‘the small and the many’. Here the State, indeed the political, faces, in Secretary Rumsfeld’s quixotic words, ‘the unknown unknowns’. Thus, Hardt and Negri suggest, the State is *re*-discovering that the War of the small and the many is not a part of its exclusive preserve and under its control.²²⁹ To cope with these bounds of Reason (as the political), the State (as Reason) fashions, that is to say, produces – not simply acquires or appropriates – a war-machine in the form of NCW. But the State’s complicity in the emergence of NCW is not simply limited to an act of creation or production. The State itself is self-organizing according to the very principles of net-centricity that underwrite the theory and doctrines of NCW.²³⁰ In this way, paradoxically, NCW as a war-machine, which brings with it the single greatest transformational potential for or on behalf of the State, also promises the transformation of the State (and by extension, the political) into a sub-assemblage and as an instrument of itself for, as we have seen, the strategic object of NCW is to organize towards a condition in which “[T]otal war is surpassed, toward a form of peace more terrifying still”²³¹ and where Reason answers – ideally without any antinomies – to Reason itself.

²²⁹ Michael Hardt & Antonio Negri, *Multitude*, (London: Penguin Books, 2005), pp 52-62

²³⁰ As we have seen, the US Dept. Of Defence’s Office of Force Transformation is a prime example by which such a ‘transformation’ is being effected and this transformation is not simply limited to a distinct martial domain. As Admiral Cebrowski and the other NCW theorists have repeatedly stressed, this transformation rides on the back of the proliferating digital dependency structures that are far in excess of mere martial domains.

²³¹ D&G, *ATP*, p 421

Recall in this context that the emerging strategic object of war - as indicated by Admiral Cebrowski - is not simply the *re-cognition* of transformation, but the *desire-ability* to exercise control in a transformational context, and thereby command (in) it. Against this backdrop, and in light of what we have seen thus far, the theories and doctrines of NCW appear disposed to preempt the progressive break-up of strategic ensembles into tactical, sub-tactical, local and singular initiatives. Additionally, as we have also seen, being premised on Reason, more precisely, calculative Reason, the theories and doctrines of NCW highlight a contradiction with/in themselves. We have already established that that what ultimately serves to limit the excess of Clausewitz's Absolute War is the *thanato-political*. We cannot, therefore, afford to ignore the fact that unlike Clausewitz's Absolute War, which, while seemingly responsive to the demands of the political (that is to say, Reason) remains indifferent to it, NCW is indifference with not only Reason (as the political) but also to *Thanatos* by rendering a condition of suspended animation. This rendition is a matter of default or necessity for it is nothing less than NCW's response to the performative contradiction that is embedded within its grammar. Thus, we should not be too hasty to dismiss NCW as the simple informationalization/ digitization of Clausewitz's Absolute War; indeed, as this study contends, the instrumentality of NCW - marked by its in-difference to Reason (the *thanato-political*) - is pivotal in our recognition of the complexity and critical immediacy that war - considered ontologically - impresses upon us.

While there is a plausible, some would say, dark, argument to be made in favour of the technological trajectory of the NCW project as being a 'strategy' of Reason,²³² for our purposes, however, NCW - as a *kehr* - is also indicative of another, *intensive*, theatre of war where/in the extensivity of NCW - NCW as a digitized version of Clausewitzian War²³³ - unfolds. It is important to remind ourselves that this intimation of *Intensive War* comes to us in the context of a transformation of reason - from the philosophical to the technological - that is currently underway as our fundamental concepts of speed, time and scale collapse into and onto each other.²³⁴ It is also important for us to note that our recognition of this intimation of *Intensive War* is marked by a singular lack of an economy of relations *with/in* Reason; rather, it is an *excedence* which allows us to point to the always-already spectral presence of *Intensive War*. The invocation of the Levinasian term serves to reiterate that *Intensive War* does not arise from Reason (as the political and the State). Rather, *it is* 'a-rising' with/in/out-of Reason. Given this, the theories and doctrines of NCW - as an expression of martial (in)corporeality - may thus be understood as a posture, rather a (martial) bearing, that is immanently informed by *Intensive War*.

²³² D&G, disappointingly, seem to draw such a conclusion. See D&G, *ATP*, p 422

²³³ The argument that NCW is simply a technological face of Clausewitzian War is an oft repeated refrain in the domain of military studies. See, for example, Colin S. Gray, *Another Bloody Century: Future War*, See also David J. Lonsdale, *The Nature of War in the Information Age*

²³⁴ In this connection Virillio's account of 'speed' and war is interesting. See Virillio & Lotringer, *Pure War*, Trans. Polizzoti, (New York: Semiotext(e), 1997).

Chapter Four

Intensive War...

...*When the walls fall down...*¹

*A Signature of the World*²

“[M]odernity”, Ansell Pearson suggests, “is haunted by the threat of the eternal return of the same and captivated by the promise of the arrival of the new, the unique and the singular, an experience of time that is ecstatic, explosive and aeonic...”³ The signature of this world is in, among other things, the “...failure of representation, of the corrosion of identities, and of the discovery of non-human forces that operate under the representation of the same and the identical... (where)...[I]dentities, and matters of life and death, are simulations, masks produced as an optical effect of the more profound game of difference and repetition.”⁴ While Ansell Pearson’s depiction of modernity - with its ‘failures of representation and of the corrosion of identities’ – may be an apt description of the emerging *battlespace*, what immediately catches our attention is his strong reference to the ‘non-human forces that operate under the representation of the same and the identical’.

¹ Black Sabbath, “Computer God” from *Dehumanizer*, 1992.

² Title borrowed from Eric Alliez, *The Signature of the World: Or, What is Deleuze and Guattari’s Philosophy*, (London: Continuum, 2005)

³ Keith Ansell Pearson, *Viroid Life: On Machines, Technics and Evolution*, in *Deleuze and Philosophy: The Difference Engineer*, (London: Routledge, 1977), p 180.

⁴ *Ibid.*, p 181.

Recognition of this, as we have already seen, was never far from the surface of the theories and doctrines on and of war. Indeed, it can be viably said that Clausewitz was only one in a long line of illustrious military thinkers and practitioners of war who attempted to contend with these ‘non-human forces’ not simply in operational terms, but also philosophically. The evidence marshalled thus far suggests that the logical, that is to say, the Reason-able, trajectory of such attempts in the Age of Information has only resulted in the continued subjection of war to, as Ansell Pearson highlights, the laws of entropy (homogeneity, abstract equivalence, neutralized differences, etc.).⁵ Nevertheless, commentators such as Coker, for example, claim that

...it is worth recognizing that if war still has a future for the western world...this is largely due to technology, especially the new technologies associated with the information revolution. It is that revolution which now offers the West the chance to reinvent war and fight it more imaginatively (and yes, more humanely) than in the past.⁶

This reflects a high degree of optimism in the technologization of war. However, this optimism is suspect because, as our review of the theories and doctrines of NCW shows us, the philosophical backdrop of NCW - despite being informed by an implicit understanding of technology in terms of an originary technicity, where “technology is a constitutive prosthetic of the human...a dangerous supplement that enjoys an originary status” - makes, what Ansell Pearson would insist is, “the entirely spurious claim that with the coming of computers and the arrival of robot

⁵ Ibid.

⁶ Christopher Coker, *The Future of War*, (Oxford: Blackwell Pub., 2004), p x.

intelligence the planet is now entering a 'silicon age'."⁷ Spurious because, among other things, despite the *Kehr* to the inhuman, the circumspection of war by the political remains a potent reminder of an "anthropocentrism and overlooks the simple fact that the human [the central figure around which it is claimed war revolves] is not only a technogenesis but equally, and more importantly, a biotechnogenesis."⁸ Our analysis of the history of military thought, including the theories and doctrines of NCW, shows us that the circumscription of war to the political has been a constant thematic in most, if not all, considerations of war and its conduct. The impact of this has been significant as is evidenced by the distinctly Clausewitzian tones in which the question regarding NCW is addressed. Working from this premise then it is possible to reflect on the prevailing discussions that engage with the emergence/ advent of the 'digital soldier',⁹ and of the 'digital way of war', as a rapidly post-modern re-presentation of a process which, as Foucault advised us, began with the 'making' of the Soldier during the French Revolution.¹⁰

⁷ Keith Ansell Pearson, *Viroid Life: On Machines, Technics and Evolution*, in *Deleuze and Philosophy: The Difference Engineer*, (London: Routledge, 1977), p 181, 182

⁸ *Ibid.*, p 182

⁹ "Future Force Warrior", U.S. Army Natick Soldier RD&E Center. Available at <http://nsrdec.natick.army.mil/index.htm>. See also Major General Lester Martinez-Lopez, "Biotechnology Enablers for the Soldier System of Systems", in *The Bridge* (The National Academy of Engineering), Volume 34, Number 3 - Fall 2004 Available at <http://www.nae.edu/NAE/bridgecom.nsf/weblinks/MKEZ-65RJZV?OpenDocument> Last accessed on May 29, 2007. Note also that the Indian Chief of Army Staff, General Joginder Jaswant Singh's recent interview is evidence that thinking in these terms is not simply the preserve of the technologically advanced US military. Among other things, the Gen. noted: "As in civilian and other sectors, we would like to make optimal use of ICT (information and communication technology) for which Indian tech firms are known worldwide. We will be investing substantially to make our operations -from war zones to civil lines - digital, with seamless connectivity for online access to information systems..." See "Indian Army To Invest In F-INSAS (Future Infantry Soldier as a System) Programme" (4/6/2007), at <http://www.india-defence.com/reports-3269>. Last accessed on June 04, 2007.

¹⁰ Foucault, *Discipline and Punish: The Birth of the Prison*, pp 135-230

Yet, we have also seen how, even Clausewitz, when confronted by chance and uncertainty, had hinted at a possible state or condition where(in) war breaks free from the bonds imposed on it by the political. Of course, Clausewitz discussed this tangentially by taking recourse to the categories of ‘the pure concept of war’, Absolute War and Real War. In the context of NCW, as pointed out at the outset of this study, there is also some evidence – primarily in the form of carefully managed issuances of ‘policy’ statements, studies, and investigations – to suggest that military thinkers have begun to, if not wholly abandon, at least seriously interrogate the conceptual paradigms of war that have traditionally promoted a reasonable and rationally predictable calculus. These studies, analyses and projections are discussed in terms of a shift in focus from ‘nation-state threats - to decentralised network threats’. They are often also discussed in terms of ‘generations’ of war, with the latest being 4GW or ‘fourth generation war’. But, behind the esoteric phraseology that is, more often than not, used to describe this turn of affairs, and the claims that are made heralding a ‘new way of war’, a closer look shows us the NCW theorists addressing a problem analogous to the one Clausewitz faced when he – situated as he was on the cusp of the Enlightenment and Romantic periods - attempted at a comprehensive theorization of war. This was the problem of chance and uncertainty – not simply in terms of Friction, but also in terms of its anteriority which, as we have seen, led Clausewitz to complain about these twin phenomena being the most inconvenient of intellectual tools. The NCW theorists, of course, openly accept this; indeed, they make it the cornerstone of their theoretical efforts as is reflected in the QDR

2006, which refers to a shift into ‘an era of surprise and uncertainty’. The only, but significant, difference between NCW and the Clausewitz projects, however, lies in the fact that while Clausewitz deferred addressing the inconveniences posed by the anteriority of chance and uncertainty (and of their presence as *Friktion*) by resorting to the figure of the Genius and by relying on the order of the political, the NCW theorists, backed by the fast-paced transformations in the ICT sectors and benefiting from the emergence of the ‘new sciences’, proactively confront it. For the NCW theorists, the rapidly proliferating ICT-based dependency-structures, present an opportunity to imagine an offensive posture vis-à-vis the anteriority of chance and uncertainty. In other words, what we increasingly find the NCW theorists doing - mostly by default rather than by intent - is to address the problem posed by the anteriority of chance and uncertainty by not defending the existent Real, but by creating it or, at least, by modifying the existent Real, in virtually unrecognizable ways. And, to do this, the NCW theorists are increasingly turning to the ‘new sciences’, and other emerging knowledge spaces like evolutionary biology and the genetics sciences, for ‘concepts of operations’.

It should, therefore, not be surprising that we find ourselves confronting, as Ansell Pearson put it, a ‘weird point’ in history “where it is no longer possible to determine whether technology as an extended phenotype is an expression of the desire of our genes or a sign of nature’s cultural conspiracy.”¹¹ As the traditional

¹¹Keith Ansell Pearson, *Viroid Life: On Machines, Technics and Evolution*, in *Deleuze and Philosophy: The Difference Engineer*, (London: Routledge, 1977), p 181

distinctions between *Zoë*, *bios* and *technos*, strategy and tactics, friend and enemy, the hunter and the hunted collapse, and as the State grapples to discover, rather re-cover, different modes of being martial, we cannot help but agree with Ansell Pearson when he suggests that “[A] thinking of difference and repetition generates itself at the point in history when the most stereotypical and mechanical repetitions [that is to say, the eternal recurrence of the Same] appear to have taken over life completely...”¹² Recall in this context the calls issued by Szafranski and other like-minded NCW theorists to change the way we think about war. This study contends that the theories and doctrines of NCW, which are suggestive of a *kehr* to the inhuman, are reflective of such a point in history. But this *kehr* is one which is greatly in excess of the calls for epistemic changes that Szafranski, among others, insist on. Thus, the critical questions remain: What does *thinking war differently* entail? *How* can war be thought of...differently?

As we begin to respond to these questions, we should not fail to recognize, acknowledge and/or take into account the fact that “[W]hat is monstrous about the activity of thought is not the truth it discovers at the end of the journey, but the journey itself, in which the transportation of thought outside itself is always Dionysian and delirious.”¹³ We should also remind ourselves that this ‘other’ thought involves an empiricism that is inextricably bound up with the creation of concepts, which serve only to propel thought outside and in the throwing off the

¹² Ibid.

¹³ Ibid., p 3

chains of anthropological predicates.¹⁴ Thus, to *think* ‘war’ outside the circumscription of the political, that is to say, to **not think** war human(e)ly, or even Reason-ably, would entail not simply thinking war differently, but to think differently as well. Among other things, such an exercise would also entail a problematization of not simply war as we know it, but also, at least tacitly, a re-problematization of the grammar that underwrites, among other things, the Real.

In an Other theatre of War (with Deleuze)

Let us begin by considering seriously a fundamental, yet often overlooked, question that Deleuze and Guattari (hereafter D&G) consistently pose in their individual and collective works: “what is philosophy?” At first glance, their answer, which holds that “philosophy is the art of forming, inventing, and fabricating concepts”,¹⁵ appears to be deceptively simple. Yet matters are more complex for the ‘forming, inventing, and fabricating of concepts’ are certainly not simple acts as they involve taking “note of the question, ...its moment, its occasion and circumstances, its landscapes and personae, its conditions and unknowns.”¹⁶ This is a common refrain that runs through Deleuze’s philosophical works. Thus, as Boundas points out...

...Deleuze’s ontology is a rigorous attempt to think of process and metamorphosis – becoming – not as a transition or transformation from one

¹⁴ Ibid., p 4

¹⁵ D&G, *What is Philosophy?* p 2

¹⁶ Ibid.

substance to another or a movement from one point to another, but rather as an attempt to think of the real as a process. It presupposes, therefore, an initial substitution of forces for substances and things, and of (transversal) lines for points.¹⁷

The fundamental concepts that underwrite this Deleuzian philosophy of process and transformation – events - are ‘becoming and difference’. ‘Becoming’, as Stagoll informs us, “...is the very dynamism of change, situated between heterogeneous terms and tending towards no particular goal.”¹⁸ Intimately associated with this is the thematic of ‘difference’, which “is not a difference established *post quo* between two identities...[thus]...The ontological primacy...Deleuze gives difference can no longer be sublated or eliminated by either resemblance, analogy, or the labour of the negative.”¹⁹ Based on these twin concepts which, we should be careful to note, are the “means by which we move beyond what we experience so that we can think of new possibilities”,²⁰ Deleuze fashions a response to the challenge – contra the dominant ethic of traditional Western philosophy – to “create a system that contains its own aleatory or

¹⁷ See Constantin V. Boundas, “Ontology” in *The Deleuze Dictionary*, Ed. Adrian Parr, (Edinburgh: Edinburgh University Press, 2005), pp 191-192.

¹⁸ Cliff Stagoll, “Becoming” in *The Deleuze Dictionary*, Ed. Adrian Parr, (Edinburgh: Edinburgh University Press, 2005), p 21.

¹⁹ Constantin V. Boundas, “Ontology” in *The Deleuze Dictionary*, Ed. Adrian Parr, (Edinburgh: Edinburgh University Press, 2005), pp 191-192.

²⁰ Note: ‘Concepts’, in the Deleuzian context, carry a somewhat different connotation. Thus, while ‘becoming’ and ‘difference’ may be viably considered as ‘concepts’, we should also bear in mind the cautionary note that Boundas strikes. He note: “concepts are not processes.” See, Boundas, “What Difference does Deleuze’s Difference make?” in *Deleuze and Philosophy*, Ed. Constantin V. Boundas, (Edinburgh: University of Edinburgh Press, 2006), p 4

paradoxical elements, elements that are both inside and outside, ordering and disordering.”²¹

Before we go any further, however, two points of caution must be highlighted. First, while Colebrook does use the word ‘system’ while referring to Deleuze’s philosophical work as mentioned above, she is careful to note that “any assemblage (such as a system) faces in two directions. It gives both some sort of order or consistency...but it also enables – from that order – the creation of further and more elaborate orderings.”²² Thus, though our reference to Deleuze’s philosophical oeuvre as a ‘system’ runs the danger of reducing his thought to another *doxa*, we should remain mindful of Colebrook’s cautionary note, which entreats us to reflect on the essential nomadism that Deleuze’s philosophical work entails. Secondly, it will be more than obvious, at least to those familiar with Deleuze’s work (and of his collaborative efforts with Guattari), that to compress and present Deleuze’s philosophy in so short a space will not simply be difficult, but impossible. Additionally, since the object of this study is not to re-present the Deleuzian philosophical *oeuvre* per se, the question of attempting such a venture also does not arise. What this study does attempt, however, is to outline one possible account of the presencing of war – that which ‘comes from elsewhere’ – that, this study claims, can be read from within the emerging accounts of NCW. This it does by reading the NCW project, in part, with Deleuze (and Guattari) –

²¹ Claire Colebrook, “Introduction”, in *The Deleuze Dictionary*, Ed. Adrian Parr, (Edinburgh: Edinburgh University Press, 2005), p 5.

²² *Ibid.*, p 3.

the choice being dictated by their individual and collective attempts to ‘move beyond what we experience so that we can think of new possibilities’.

i. Rhizomes: A concept of operations on planes of immanence

Deleuze, for the most part, ruins representation by diagramming an ontology that commits...

...to perceive life...[as]...connection and relation, but the outcome or event of those relations is not determined in advance by intrinsic properties...life is both that which requires some form of order and system (giving itself through differences that are perceived and synthesized) *and* that which opens the system, for life is just that power *to differ* from which concepts emerge but that can never be included in the extension of the concept.²³ (emphasis in original)

Based, to a great extent, on this ontological insight, D&G present us with the concept of the Rhizome. Coleman suggests that “‘Rhizome’ describes the connections that occur between the most disparate and the most similar of objects, places, and people; the strange chain of events that link people.”²⁴ Thus, for D&G, the rhizome is a concept that maps – as differentiated from the rhizome being a map of - processes and networkings, and the transversal movements of thought without any fixed points of reference. At the heart of the concept of the rhizome, therefore, lies a sense of movement that is perpetually de-centering, destabilizing which, for D&G, is a creative gesture thus leading them to say:

²³ Ibid., p 5

²⁴ Felicity J. Coleman, Rhizome, in *The Deleuze Dictionary*, Ed. By Adrian Parr, (Edinburgh: Edinburgh Univ. Press, 2005), p 231

“Write, form a rhizome, increase your territory...extend the light of flight.”²⁵ The critical question of course is: what does it mean to ‘write’ or ‘form’ a rhizome? Put differently, what are conditions of possibility of rhizomes?

D&G draw our attention to what they refer to as a ‘plane of immanence’ which, they assert, “is a table, a plateau, or a slice; it is a plane of consistency or, more accurately, the plane of immanence of concepts.”²⁶ They also caution us to avoid confusing ‘concepts’ and the plane of immanence for they insist that it (the plane of immanence) “is neither a concept nor the concept of all concepts.”²⁷ D&G provide us with further clues as to the nature of this plane. The plane of immanence is, according to them,

formless...neither surface nor volume...the horizon of events, the reservoir or reserve of purely conceptual events: not the relative horizon that functions as a limit, which changes with an observer and encloses observable states of affairs...[it is]...the absolute horizon that functions as a limit, independent of any observer...it is the indivisible milieu in which concepts are distributed without breaking up its continuity or integrity...The plane is like a desert that concepts populate without dividing up...²⁸

The plane of immanence, which D&G have variously referred to as a plateau and a milieu, is “vibratory, in other words a block of space-time constituted by the periodic repetition of the component”²⁹...wherein exchanges between

²⁵ D&G, *ATP*, p 11

²⁶ D&G, *WIP?* p 35

²⁷ *Ibid.*

²⁸ *Ibid.*, p 36

²⁹ D&G, *ATP*, p 313

multiplicities at the virtual and intensive registers take place.³⁰ Critically, D&G also advise us that the plane of immanence has two facets – *Nous* and *Physis* – which account for “why there are always many infinite movements caught within each other, each folded in the others, so that the return of one instantaneously relaunches another in such a way that the plane of immanence is ceaselessly woven, like a gigantic shuttle.”³¹ In this way, the plane of immanence “envelopes and distributes, without identifying, the heterogeneities that make up the world...[and in this way, it necessarily entails] a positive affirmation of the divergence of series.”³² It is also important to note that these ‘infinite movements’ are further characterized by their “infinite speed, such that the particles, forms and entities that populate it emerge only to disappear immediately, leaving behind no consistency, reference or any determinate consequences.”³³ To understand this condition as being chaotic or disorderly would be to not only underestimate the creative (and destructive) productivity of the plane of immanence, it would also suggest a continuing adherence to the trinitarian series that sustains most, if not all, philosophies of representation and transcendence – God, World and State (Man). Keeping in mind this qualification, it is possible, however, to understand the turbulent plane of immanence as being anterior to the face of chance and uncertainty that is familiar and amenable to representation. Against this backdrop,

³⁰ Bonta & Protevi, Ed., *Deleuze and Geophilosophy*, (Edinburgh: Edinburgh Univ. Press, 2004), p 124. It is important to note that though D&G do suggest that the plane of immanence is also a plane of consistency, it is not, as Bonta and Protevi suggest, an experimental field – experimental in the sense that it is the plane where immanent and horizontal relationship may be constructed. This is inaccurate because (1) the plane of immanence is not a field per se, and (2) experimentation is not an activity that is possible with/in the plane of immanence due to its intrinsic immanent nature. See D&G, *WIP*, 35-60

³¹ D&G, *WIP*, p 38

³² Alberto Toscano, “Chaos”, in *The Deleuze Dictionary*, p 43.

³³ *Ibid.*

rhizomes, therefore, are moving and morphing matrices that map, or, to be patently Deleuzian about it, diagram, by virtue of their very emergent presence, the processes that characterize the ebb and flow of the infinite movements that populate the plane of immanence. Put differently, “the rhizome is any network of things brought into contact with one another...the rhizomatic network is a mapping of forces that move and/ or immobilize bodies.”³⁴ As such, therefore, while rhizomes can serve to break up, interrupt, shatter, overturn the rigid and binary structures of representative and transcendental models of thinking, they are also in-different to such transcendental modes of organization and thought.

Now, as our discussions on the history of military thought, and particularly that of NCW, shows us the Limit-Condition of these theories of war was not simply the chance and uncertainty that surfaces in the prosecution and conduct of war - it was also those startling interruptions, breaches, quakes, tremors that seemed to arrive unannounced from someplace anterior to chance and uncertainty, and which threatened, at every turn, to reduce the prevailing theories of war into incoherence. Has there been any improvement in this situation with the introduction of ICTs and the ‘new sciences’ in the emerging theorizations of war? The answer to this is a qualified yes. In the case of most of the NCW theorists who claim to be organizing their theories around chance and uncertainty, the mode of representation which has underwritten the theories of war in the Enlightenment and Romantic Eras - now empowered by technologies of stratification, hierarchical orderings based on information and communication

³⁴ Felicity J. Coleman, “Rhizomes” in *The Deleuze Dictionary*, p 232

dependency-structures - continues to hold them hostage and condemns them to find this anterior condition of chance and uncertainty virtually ungraspable. Thus, while their decidedly compromised Clausewitzian approach to NCW, riding the crest of the ICT wave, has progressed much in terms of achieving a fair degree of resilience against the vagaries of these twin disruptive phenomena when compared with the efforts of their illustrious predecessors, their own efforts, however, remain - what Deleuze refers to as - arborescent schemas as contrasted with the rhizomatic diagrams that D&G suggest are applicable to processes, networkings and transversal movements that are in play on and across the plane of immanence.

But this does not mean that NCW as a concept of operations does not provide us with an opportunity to re-problematize war. It would only entail in moving from an arborescent mode of problematization to a rhizomatic one. Thus, it is suggested, if - as we saw in the case of Clausewitz - the critical question in any investigation of war is about how to operate and organize in a condition of radical chance and uncertainty, that is to say, in decidedly aporetic conditions, then the rhizome is an eminently suitable tool that can be productively used to reflect on precisely such a question.

Rhizomes, as we have seen, serve to shatter and destabilize structures - particularly, rigid and binary structures. But this shattering and de-centering is not a negatively destructive activity. In other words, Rhizomes shatter and destabilize

by virtue of their productive (cap)ability to form and reform across and alongside the surface-plane of the plane of immanence where processes unfold at infinite speed, and which necessarily involves *destruktion*, but also creation. Now, if we posit that Real Time (as distinct from 'calculable Time') is the surface condition of the plane of immanence, then rhizomes, it is tempting to conclude, are 'behind Time' as they are, however fleetingly, instant-frames that slow down the infinite speed of the unfolding processes of *destruktion* and creation to a lesser (and slower) infinity of speed and movement thereby exposing the critical connections between events and occurrences, and between the most disparate and the similar. But, as we shall soon see, this is not necessarily the case. For the moment, however, it is important to bear in mind that these critical connections are not representations of the 'thing-in-itself' (events and occurrences). Rather, they are correspondences that are established between events and occurrences, which are impossible to organize in any hierarchical way given the infinite speed and movement that they entail. These 'infinite movements' are not stratified, layered, and hierarchical; rather, they are rhizomatic, that is to say, they are flat and distributive. This also suggests that critical to the rhizomatic concept is a notion of a radical multiplicity. Radical because, unlike in the mode of hierarchical thinking, the multiplicity implicit in the rhizome does not take as a reference a unity. As will be immediately evident, this mode of organizing is quite different from the generally hierarchical modes of organizing that we are familiar with.

Even though, as we have seen, the NCW project is clustered around a strategic objective, which Admiral Cebrowski has identified for us in terms of 'transformation', its operational stance, however, is increasingly reflective of a combative stance against what Secretary Rumsfeld poetically termed as 'the unknown unknowns.' This is, in part, due to the arborescent schema that NCW's concept of operations is a part of, which is inextricably linked to the State (apparatus) from which, NCW (as a war machine) issues forth. Recall that in the case of NCW, the Ideal mesh of nets comprised of advanced sensors and mobile weapon-systems are imagined as being global in spread and nature. They also suggest infinite movement at varying speeds, which contribute, indeed guarantee, the intrinsic stability of the 'system' of nets that are so central to the NCW concept. Thus, it is not surprising to find that one of the core objectives of the NCW project is to develop and deploy a 'common operational picture' that will facilitate a Real-time 'collective engagement capability'. A closer look, however, shows us that this is an illusion for equally implicit in the NCW concept of operations is an immobility that is equally necessary to maintain the integrity of the mesh of nets and to create the 'collective consciousness' tools as mentioned above. Thus, the theories and doctrines of NCW, though paying lip service to the multiplicity that is attributed to *battlespace* are grounded in a Unity that serves as an anterior condition to the multiplicity that the NCW theories so zealously highlight. In other words, unlike the multiplicity that rhizomes – going by D&G's exegesis – presume, which bear no relation to a Unity, the multiplicity of NCW's mesh of nets are active constituents of a Unity. Thus, it was asserted that the

concept of operations that form the bedrock of the NCW concept are partial to being global as opposed to being fragmentary and multiple. Given this, therefore, while we may be tempted to wholly identify the NCW concept of operations with and as a rhizome, aside from acknowledging the superficial resemblance, we should resist this temptation. For our purposes, it is necessary for us to note that the core problematic associated with NCW's concept of operations is that it cannot remain in the rhizomatic mode which it resembles. In other words, NCW's concept of operations cannot maintain its distributive and transient parallel that is intrinsic to the rhizome. This is because, as we have seen, to develop and maintain the Unity that is the imagined condition of possibility of NCW, its emerging concept of operations cannot help but strategize the environment. The rhizome, however, is anything but arboreal. Indeed, going by D&G's usage of the concept, the rhizome is the counter-point of the arboreal schema. Whereas the latter, is ordered hierarchically from the greater to the lesser, from the superior to the subordinate, and from the transcendent to the particular, the former – as we have seen – is at best an ordering-in-progress that is flat and without depth.

As we have seen, the strategic objective of NCW – transformation – necessarily implies 'movement'. In this context, it is important for us to note that the mobility associated with NCW's concept of operations is teleological in the sense that it must contribute to the creation, maintenance and expansion of the arboreal scheme with its attendant hierarchies into which a defining force dictates

the position and meaning of all else in the system.³⁵ It is in this way that the NCW concept of operations promotes a suspension of animation for the defining force of the NCW concept of operations cannot attend to any contrary or competing force – including, paradoxically, the ‘force of transformation’. *Indeed, this is precisely how the NCW concept of operations, when mapped against the chaosmos of the plane of immanence, strives to reduce the processes of the plane of immanence into (strategic) histories of events and occurrences.* This, the NCW concept of operations attempts to do by extracting the force of the processes of the plane of immanence thereby rendering them immobile thereby consigning them to be ‘standing-reserve’. Contrarily, the rhizome does something quite different. Instead of confining the processes of the plane of immanence, or reducing them to standing-reserve, the rhizome highlights the force of such processes. In other words, rhizomes thrive on the play of forces. In this sense, the instant-frames that we may read off the map that rhizomes generate are less points of immobility, which we are most familiar with as fixed points of reference, rather they are signatures of the locales where the intensity of force morphs, emerges and dissolves. It is for this reason that rhizomes when cast against the plane of immanence are not ‘behind time’. Rather, they are *on* time, which unfolds in and across the plane of immanence.

³⁵ Thus, for example, it is stated that “Each concept in the top-level is described by a set of attributes and metrics at the second level. The attributes measure characteristics of the concept in terms of quantity (how much? how often? how long? etc.) and quality (how correct? how appropriate? how complete? etc.). Each attribute is actually measured by a metric (or set of metrics) that specifies in detail what data would be needed to measure the attribute.” See, *Network Centric Operations Conceptual Framework (Version 1.0)*, Prepared for John Garstka, Office of Force Transformation, (Vienna, VA: Prepared by Evidence Based Research, Inc, Nov. 2003), p 6 (of Word File)

The curious thing to note in our discussion of rhizomes and NCW's concept of operations is the obvious disconnect that emerges between Admiral Cebrowski's announcement of the strategic object of NCW – 'transformation', which can be read in its present continuous form, and the 'transformation' that is effected by the NCW concept of operations. As we have seen, the outcome of the employment of NCW's concept of operations, while certainly transforming the force of the processes on the surface-plane of immanence, only succeeds in immobilizing it. As noted earlier, it is this immobilization – which we could viably interpret as the extraction of movement out of transformation – that stands as the conditions of possibility of what the NCW theories refer to as 'common operational pictures'. Thus, NCW's concepts of operations engage in transformations to immobilize.³⁶ But, on the other hand, if we take the Admiral's statement in its present continuous form – that is to say, if we understand 'transformation' as an infinite process (possibly occurring at infinite speed) - then we are confronted with the possibility that the Admiral's reference to transformation may also be read as a reference to the seething surface-plane of the plane of immanence that we have had occasion to examine. If this is indeed the case, then we now have, but only barely – for, as we will see, it still remains mediated - a glimpse of that other war that we have claimed is so inextricably intertwined with not only NCW but also to its martial predecessors.

³⁶ This much is obvious from the NCW and Force Transformation literature. See, for example, "Understanding Transformation", in *Transformation Trends*, by Tom Hone, Asst. Dir. Office of Force Transformation, US Department of Defence, Jan 16, 2004. Available at http://www.of.t.osd.mil/library/library_files/document_325_Transformation%20Trends-16%20January%202004%20Issue.pdf. Last accessed on, Jan 2008.

ii. *Planes of Immanence: Becoming-Battlespace*

By suggesting the concept of the rhizome as a concept of operations, we have contrasted it with the more arborescent schematics of the concept of operations that the emerging NCW theories presume. Further, we identified the plane of immanence as being the condition in and on which rhizomes operate. This plane of immanence, which D&G variously refer to as a plateau/ plane/ milieu, Stagoll suggests, can be “conceived as a surface upon which all events occur, where events are understood as chance, productive interactions between forces of all kinds. As such, it represents the field of becoming, a space containing all of the possibilities inherent in forces.”³⁷ A pertinent question to pose at this point would involve locating this plane of immanence. In the Deleuzian context, this is a difficult question to address. This is because not only does Deleuze use the ‘plane’ in various ways but, as is apparent from his later writings, Deleuze, somewhat confusingly, also refers to THE plane of Immanence, which may be construed as being the ‘immanent nature’ of planes of immanence, which is crucially in excess of any particular plane of immanence that we may identify at a given point in time, but which is also simultaneously immanent to all possible planes of immanence. Thus, any consideration of planes of immanence will need to be entered into with caution.

There are two active considerations of the plane of immanence at play here – first in the sense of it (a plane of immanence) being infinite and second, in

³⁷ Cliff Stagoll, “Plane” in *The Deleuze Dictionary*, p 204

the sense of a plane that is immanent to all planes which, while being different to all possible planes of immanence, is also identical to them. Thus, our question relating to the site and locale of planes of immanence must be addressed simultaneously *and* in these twin senses. Furthermore, planes of immanence are troublesome to deal with as they are not only infinite, but they are also different from each other. Here, of course, we should pay heed to the ‘difference’ that Deleuze invokes, which is different from the difference that we are more commonly familiar with. The key point to note is that while there are an infinite number of planes of immanence, this difference is not between the planes (though they may be manifested as such). Rather, planes of immanence are always ‘becoming’ different thus establishing but also severing – this happening infinitely and at infinite speed – relations, economies, shared characteristics with and in each other. In this context, it is important to note, the movement that marks infinite planes of immanence is a signature of what D&G refer to as The plane of immanence – the immanent plane that is immanent not only to all planes but also to itself.

Now, D&G tell us that “[F]rom chaos, *Milieus* and *Rhythms* are born.”³⁸

In other words, planes (which D&G, infuriatingly, but not surprisingly, also identify as milieus) can trace their genesis to chaos. As an off-spring of chaos, planes “are open to chaos, which threatens them with exhaustion or intrusion.”³⁹

In this sense, therefore, planes of immanence are faced, on at least one side, by

³⁸ D&G, *ATP*, p 313

³⁹ *Ibid.*

chaos. Thus, planes of immanence reflect the intensities of the forces of the chaos from which it takes birth. Note that this 'reflection' is not unidimensional. Rather, it is an economy of relations which suggests that the 'consistency' of the plane of immanence is marked by the ebb and flow of intensities of force that arise from within the chaos that planes of immanence emerge, but also reside, on. In other words, the economy of relations between chaos and planes of immanence is not marked by a lack of intensity at any point or instant – rather, varying intensities of force lend a peculiar consistency to not only the planes of immanence but also to their relations with chaos. It is important to note that it is this variation of intensities that manifests itself as the infinite speed and movement that characterizes planes of immanence. Additionally, planes of immanence do not, indeed cannot, exercise proprietary rights over particular intensities. Rather, intensities of force move through various planes in sudden and unexpected ways thereby establishing critical connections and abrupt breaks within and between planes – this occurring infinitely.

While this may convey an image of disruption and pandemonium in and between planes of immanence, we should bear in mind D&G's cautionary note regarding the 'in-between' that resides not only between planes of immanence, but also between chaos and planes of immanence. This is identified by D&G as 'rhythm'. If we think of chaos as a jumble of intensities of force, then 'rhythm' is the coding-machine that codes these intensities of force with-in planes of immanence thereby lending, however transitorily, a consistency to them. Let us

again exercise a degree of caution here. It is tempting to understand rhythm as an organizing principle of planes of immanence for, as mentioned above, rhythm is that which lends consistency to the planes of immanence. This is not accurate for, as D&G advises us, “a milieu [plane/ plateau] does in fact exist by virtue of a periodic repetition, but one whose only effect is to produce a difference...”⁴⁰ Thus, what we have here is not a rhythm of consistency (marked by the repetition of the same), rather we have a consistent rhythm of difference which is the becoming-different that is the hallmark of planes of immanence.

Thus if we ask: Do planes of immanence display a rhythm? Is chaos rhythmic? - going by what D&G have to say on the matter, the answer will be a qualified ‘no’.⁴¹ This is because, D&G, here quoting Bachelard, suggest that “*the link between truly active moments (rhythm) is always effected on a different plane from the one upon which the action is carried out.*”⁴² Thus, while it is accurate to say that planes of immanence and chaos may be shown to be rhythmic, this perception of rhythm always takes place elsewhere because “[R]hythm is never on the same plane as that which has rhythm.”⁴³ Rhythm, as D&G claim, is the ‘in-between’ – in between chaos and planes of immanence, and between planes of immanence themselves.

⁴⁰ D&G, *ATP*, p 314

⁴¹ Note that by asserting this, this study is contesting the claim made by D&G that even chaos has a directional tendency. See D&G, *ATP*, p 13

⁴² *Ibid.*, p 315 (emphasis in original)

⁴³ *Ibid.*, p 313

What we have established thus far, therefore, is the following: Planes of immanence are formless. This formlessness is a commentary on both the ‘form’ of a plane and on the becoming-form that takes place with-in it. Planes of immanence, as we have also seen, while apparently seeming to share a seamless co-joining with chaos, actually share a mediated relationship with chaos. Rhythm is the inter-mediary between planes of immanence and chaos. As such, Rhythm is the periodicities (of difference) that intensities create which, in turn, ‘reflect’ on the surface-plane of the planes of immanence. These periodicities of intensities are what is consistent in planes of immanence. Further, we have seen that planes of immanence are immanent to themselves. In other words, planes of immanence, which are perpetually in-difference - individually and collectively – with each other, are also, by virtue of this becoming-different (which is a connectivity between relations and not identities) – individually and collectively - ‘in’ each other.

Our review of *battlespace* in the NCW context when cast against this backdrop brings to light a number of startling correspondences, which warrant our attention. Let us begin by recalling that the *battlespace* that the NCW theories discuss, as a net assessment, is an enlargement *and* magnification of the ‘battlefield’ of classical military theory. This enlargement and magnification has ensured that the battlespace has spilled over the traditional battlefield, that is to say, it is in excess of the latter. This is not surprising because, as we have seen, whereas the traditional battlefield was largely grounded in the Physical domain,

the battlespace of the NCW theories is said to extend across the Physical, Cognitive and Informational domains. This, as we have asserted elsewhere in this study, is the 'space' of war in NCW terms.

Battlespace, in NCW terms, is a fluid ecology. In other words, constant movement occurring at the speed of light is the key characteristic of battlespace. In and on battlespace, threats are always decentered, diffused and indistinguishable, that is to say, becoming-distinguishable. Thus, as we have seen, the evolving operational stance of NCW is said to be akin to a 'swift elusive sword' with compact and efficient logistical tails. Battlespace also invokes intensities. Indeed, it is suggested that intensities constitute battlespace and in this way they provide consistency to battlespace. The theories and doctrines of NCW are much concerned about these intensities, for they, like D&G, see intensities as instances of the connectivity between relations as compared to those between identities. As we have seen, the theory of 'effects-based operations' is grounded in such an understanding of battlespace. Further, like in the case of planes of immanence, battlespace also exhibits a rhythm – a tempo of operations - which, in the context of planes of immanence, is the inter-mediary between them and chaos. We have also seen how rhythm is the vibratory expression of the intensities of force. The same can be said to be applicable in the case of battlespace in which case, the tempo of operations which, in the NCW context, relate to not only the 'directed' flow of events and processes as mobilized by a strategic ensemble – in the manner in which the EBO theory suggests – but also to the free flow of events

and processes that are pure expressions of force intensities. What this means, therefore, is that the tempo of operations that the NCW refer to also 'reflect' (thereby giving us an intimation of) an anterior condition that, like in the case of planes of immanence, is chaos.

NCW's battlespace, however, is crippled by its association with the State-centric NCW theories and doctrines. Thus we find that the desire-ability to slow down the infinite speed of infinite movements by various ICT-driven modes of representation extracts from battlespace the intensity that gives it its consistency in the first place. Thus, we find NCW theorists speaking of maximum mobility in limited space where the latter is a function of and restricted to the spread of nets and meshes that are so critical to the theories and doctrines of NCW. This might seem to be in contradiction with what was previously stated - the theories and doctrines of NCW are cognizant of intensities (of force) as being connections between relations rather than being between identities. This contradiction is, however, deceptive because while it is true that NCW theories see connections as being relations which may or may not be influenced – as is the case in effects-based operations – this only holds true if the 'system' in which such relations are conceptualized is considered to be a closed system. In other words, NCW theorists begin from the premise that their operational space, that is to say, battlespace, is not open ended, as is the case with planes of immanence - rather it is a closed space which allows for the theoretical possibility of perfect calculability. Thus, in a manner reminiscent of Clausewitz, the NCW theorists (at

least thus far) while not avoiding or deferring the problem posed by infinite speed and movements (which may be viably considered as being contributory to the chance and uncertainty that Clausewitz complained about), respond to it by creating and deploying finer nets and meshes that serve to increase the resolution of that what they map thereby slowing, optimally bringing to a standstill, the infinite speed and movements of intensities.

Let us be clear about the matter regarding NCW's battlespace. In our discussion on Clausewitz and his architectonic on war, we discovered that the principle philosophical question that bedeviled Clausewitz was how to organize in the face of chance and uncertainty. We further saw how Clausewitz deftly relegated the problems posed by the anteriority of chance and uncertainty by affirming *Friktion* that made its presence felt on the battlefield. The task of dealing with this, of course, was assigned by Clausewitz to not only meticulous planning, but also to the Genius and the underlying rational order of politics that he girded the phenomenon of war with. Riding on the back of the rapidly proliferating ICTs and the 'new sciences', the theories and doctrines of NCW have visualized the battlespace as not only the space of battle, but also as the condition of possibility of war itself. It is, therefore, not surprising that the NCW theories extend the battlespace across the Physical, Cognitive and Informational domains. To say that the NCW theories underestimate the vagaries of chance and uncertainty would also be a mistake. Indeed, as we have seen, the NCW theories organize themselves around chance and uncertainty. But the mode of this

organization is not liberating. Rather, it is constrictive. In other words, despite the fact that the emerging ICTs and the 'new sciences' have done much to break down the mode of representation associated with the Real and in its place have resorted to creating new and varied 'realities' which now, more than ever, have begun to account for chance and uncertainty, the logic of NCW, as we have seen, tends to organize these disruptive phenomena in what can only be described as a closed system. This is most evident in the NCW version of battlespace. The implicit promise of NCW thus is to exhaust chance and uncertainty and of their ability to interrupt, disrupt and overturn – which is how the NCW theories understand threats-in-being – by exhausting them of the intensity of their force. As we have already seen, this is attempted by the very concept of operations that NCW presumes.

Thus we find, yet again, that behind the shadow of the comprehensive and totalizing battlespace that the NCW theories swear by, there lurks another battlespace. It is not possible to understand this battlespace if we begin from a position that presumes the NCW's concept of operations. However, when considered in light of rhizomes, which we have earlier posited as being an alternative to the NCW concept of operations, then an open ended battlespace marked by infinite movements at infinite speeds reveals itself as not simply being the site of new battles but also, albeit in hidden and mysterious ways, informing the battles that lend a consistency to the Clausewitzian notion of war.

We have now had two opportunities whereby we have gained an intimation of an other war. Before we embark on a discussion on this other war, a brief look at some typical modes of organization that D&G tell us is productive in this condition is warranted.

iii. Assemblages and apparatuses of battle

Rhizomes, we had noted, instead of confining the processes of the plane of immanence, or reducing them to stand(ing)-reserve, highlight the force of such processes. In other words, rhizomes thrive on the play of forces. Further, we noted that the instant-frames that we may read off the map that rhizomes generate are not points of immobility, rather they are signatures of locales where the intensity of force morphs, emerges and dissolves. It will be obvious from our discussion on rhizomes (and from D&G's extensive discussions on the same) that the intensities of the forces of processes that are 'reflected' on the plane of immanence are maps without any tangible consistency. In other words, rhizomes, when perceived as outcomes, that is to say, as maps, are without any density. This is because, as we have already seen, rhizomes are just the signatures of the intensities that forces and their related processes display. In this sense, they are a-systemic. In other words, the intensities of forces that rhizomes map cannot be considered to be a system of any kind given the infinite movement and infinite speed that characterizes the agitation of forces. Given this, therefore, the pertinent question

to pose would be the following: How is organization possible in a condition of movement and intensity?

D&G devise the 'assemblage' as a direct response to this question. Bonta and Protevi describe an 'assemblage' as "an intensive network...displaying 'consistency' or emergent effects by tapping into the ability of self-ordering forces of heterogeneous material to mesh together."⁴⁴ To clarify matters and to bring them in line with the requirements of this study, let us briefly examine what is implied in Bonta and Protevi's use of the terms 'emergence' and consistency'. Drawing on the work by Thompson and Varela, Bonta and Protevi suggest that emergence may be described as the "mutual constitution of local-to-global or 'upward' causality that produces focused systematic behavior and the global-to-local or 'downward' causality that constrains the local interactions of components."⁴⁵ Intimately related to this is the notion of consistency, which may be understood as the progressive congealing of intensive and far-from-equilibrium forces and processes towards a stage of equilibrium.⁴⁶ Thus, when considered in the context of the turbulence of the surface-plane of the plane of immanence, emergence and consistency may be understood as being the engines that drive the processes of becoming. The critical issue about emergence, in particular, is the phase-state changes that are in motion as matter moves from a more diffused state to one that is amenable to being stratified and systematized. We should also note that as such phase-state changes take place, what varies is the consistency that

⁴⁴ Bonta and Protevi, *Deleuze and Geophilosophy: A Guide and Glossary*, p 54

⁴⁵ *Ibid.*, p 32

⁴⁶ *Ibid.*, p 16

each phase-state involves. This is where matters get complicated. It is tempting to limit the notion of consistency not only to a single matter or substance that may be undergoing a phase-state change, but also to a homogeneous state which is at a ready-state equilibrium. By presuming this, however, we run the risk of ignoring the intensive morphogenetic processes that – as processes – constitute even the most elementary atoms and particles.⁴⁷ Let us examine these matters in a little more detail.

Dupreel, D&G observed, proposed a theory of ‘consolidation’ in which “he demonstrated that life went not from a center to an exteriority, but from an exterior to an interior, or rather from a discrete and fuzzy aggregate to its consolidation.”⁴⁸ D&G draw our attention to three implications that result from Dupreel’s theory, which are critical in the consideration of consistency.

First, that there is no beginning from which a linear sequence would derive, but rather densifications, intensifications, reinforcements, injections, showering, like so many intercalary events...Second...there must be an arrangement of intervals, a distribution of inequalities, such that it is sometimes necessary to...consolidate. Third, there is a superimposition of disparate rhythms, an articulation from within of an interrhythmicity, with no imposition of meter or cadence.⁴⁹

Thus, D&G suggest, consistency “...produces consolidated aggregates, of succession as well as of coexistence, by means of the three factors...intercalated

⁴⁷ D&G, *ATP*, p 335

⁴⁸ *Ibid.*, p 328

⁴⁹ *Ibid.*, pp 328-329

elements, intervals, and articulations of superposition.”⁵⁰ Implicit in this is a process, rather multiple processes, which involves a coding of the elements which results in the consolidation of aggregates. The process of coding, however, is not a simple one for it involves an infinite set of heterogeneities that aggregate and disperse simultaneously. This is the phenomenon of emergence, which is marked not only by the heterogeneity of its processes, but also by the heterogeneities of relations that it establishes. Thus, the processes of emergence whose outcomes is the establishment of consistencies do not necessarily result in the formation of rigid structures, though it should be mentioned that the processes of emergence when over-coded have a proclivity to very quickly transform the normally heterogeneous into a homogeneous condition. As will soon see, this is intimately related to the emergence of structures and of apparatuses.

Against this background, therefore, assemblages, which we have already identified as being an ‘intensive network that display a consistency by meshing together heterogeneous materials’, may be understood in two broad senses. First, an assemblage may be understood as being as a contingent arrangement or aggregation of heterogeneous elements that share intensive connections with each other. In this form, assemblages are on the verge of becoming structures. What prevents them from consolidating into such rigid entities is the force of the intensities that come together as an aggregate. Given that this aggregation is purely contingent, the structural outline of the assemblage is therefore not guaranteed. Put differently, it could be said that an assemblage in the above sense

⁵⁰ Ibid., p 329

is the failure of the culmination of a becoming-structure process. Thus, whatever consistency that is developed in such assemblages are equally transient and disperse as the assemblage de-constructs only to reform as another assemblage with a very different set of intensities and levels of consistency. In the second instance, however, an assemblage may be considered as being a singular process that is unidirectional in the sense that it follows a linear path towards the establishment of a structure. In this scenario, assemblages begin to acquire consistencies that resist dispersion by exhausting the intensity of the force of the elements that aggregate as an assemblage. In this latter form, assemblages become apparatuses which overcode and channel the force of aggregating elements. In the process, the intensive relations between the aggregating elements are exteriorized, that is to say, they are calcified and hardened thus eventually resisting – though not always successfully – the free flow of forces and their intensities.

In the NCW context, the doctrine of swarming, or that of battleswarms, closely approximates assemblages. Recall that ‘swarming’ on the battlefield is “seemingly amorphous, but it is a deliberately structured, coordinated, strategic way to strike from all directions, by means of a sustainable pulsing of force...It will work best – perhaps it will only work – if it is designed mainly around the deployment of myriad, small, dispersed, networked maneuver units.”⁵¹ What is interesting about the doctrine of swarming is the direct reference that is made to the ‘making of assemblages’, comprising of sensors and mobile weapon-platforms that are designed not only to strike an adversary, but to also form part of a sensory

⁵¹ Arquilla & Ronfeldt, *Swarming and the Future of Conflict*, p vii (of PDF version)

organization.⁵² The critical point to note is that given the dispersed nature of threats that are perceived to be the ‘new face of threats’, swarms are, ideally, contingent organizations that take form based on the threat that is meant to be dealt with. In other words, working from the presumption that threats are multi-varied, the forms that battleswarms assume are not fixed – rather, they are configured to respond to the particular threats that their forms are designed to meet and quell. But this does not imply that there is a ‘bank’ or a ‘database’ of forms that swarms can draw from. What is critical to note is that threats, in no small measure, co-constitute the swarms that combat them. It is in this sense that battleswarms come to closely resemble assemblages. Indeed, as such, at least superficially, battleswarms fulfill most of the general features of assemblages.

Thus, for example, when configured to meet a threat, battleswarms display a consistency which is defined by the aggregation of the constituent elements – sensors and weapons - of the battleswarm in question. Secondly, particular configurations of battleswarms are just that – particularities. In other words, particular formations of battleswarms are specific to the threats that they address and, in a general sense, such forms and formations are never repeated. In this sense, the structures of battleswarms are contingent on the threats that they respond to. As and when the threats are mitigated, the assemblage of sensors and weapons that constitute the battleswarm disperse only to re-assemble differently when responding to another threat. In this connection, it is also interesting to note that like the assemblages that we have examined above, battleswarms also display

⁵² Arquilla & Ronfeldt, *Swarming and the Future of Conflict*, p 22 (of PDF version)

an interior intensive relation – based on capabilities - that holds its constituent units in a loose network. This is distinct shift in the way militaries are historically organized and as such reflect the innovative organizational potentials that the theories and doctrines of NCW have brought about. Thus, Edwards can write, “[A] doctrine based on swarming calls for ...radical changes in equipment and organization.”⁵³

The interesting thing about battleswarms (as assemblages) is that unlike those assemblages that morph into apparatuses by densifying the nascent consistencies that hold assemblages in a tenuous network, battleswarms only reaffirm their fragmentary and dispersed natures. But equally, and this is again a signature of the paradox that afflicts the theories and doctrines of NCW, the objective of battleswarms is to reduce this heterogeneity into a homogeneous ecology which involves the liquidation of a multiplicity of singular threats. It needs to be reiterated that the fragmentary posture adopted by battleswarms is only possible in ecologies that become homogeneous. Thus, while battleswarms operate as assemblages, they can only do so in closed systems or at least by presuming that their operational ecologies will increasingly become homogeneous or closed in short order. There is a link that can be drawn between this tendency of battleswarms (in the NCW context) and the State from which it issues forth and it warrants a brief examination.

⁵³ Sean Edwards, *Swarming on the Battlefield*, p 66

As we have seen above, an increase in the degree of consistency coupled with a closure from and to the transversal flow of forces and their intensities, results in assemblages quickly morphing into rigid structures by eliminating the intensive differences that marks the heterogeneous elements that constitute it. Apparatuses are formed in this manner. The key point to note is that such apparatuses carry within themselves a function of capture or coding, which serves to reduce the heterogeneity of assemblages into homogenous elements which are then amenable to being organized and categorized. In other words, the radical mobility that characterizes the heterogeneity of elements that constitute assemblages is, in the context of apparatuses, rendered immobile thereby allowing for them to be channeled into a centralized organism or system.⁵⁴ In this sense, apparatuses are by default those entities “...whereby alien and rogue semiotics and...assemblages are captured and overcoded, engulfed by a transcendent force that striates all reality: space, time, body, culture, nature.”⁵⁵

Now, D&G, while insisting that “there has always been a State, quite perfect, quite complete,”⁵⁶ also assert that “the State has always been in a relation with the outside and is inconceivable independent of that relationship.”⁵⁷ The exercise of this relationship, of course, is effected by striation which D&G refer to as one of the fundamental tasks of States and going by their exegesis on the State it would seem that States are unable to resist this function of coding and striating.

⁵⁴ Bonta and Protevi, *Deleuze and Geophilosophy: A Guide and Glossary*, p 52

⁵⁵ *Ibid.*, p 52. See also D&G, *ATP*, pp 310-350

⁵⁶ D&G, *ATP*, p 360

⁵⁷ *Ibid.*

Thus, it is not surprising that D&G identify the State as an apparatus. However, D&G, following the work of Clastres, also assert that they “do not see how the State can be explained by what it presupposes”.⁵⁸ And, what is this presupposition? As mentioned above, it is the inconceivability of the independence of the State apparatus to ‘the outside’. Indeed, they also insist that “[T]he state seems to rise up in a single stroke, in an imperial form, and does not depend on progressive factors. Its on-the-spot emergence is like a stroke of genius, the birth of Athena.”⁵⁹ Naturally, we need to query D&G about this startling claim. Thus, for example, we need to ask: If the State did indeed arise in a single stroke, did it do so as an apparatus? In other words, can apparatuses emerge on-the-spot? If we go by our discussion on assemblages and apparatuses then we must conclude that the on-the-spot emergence of apparatuses is, to say the least, mystifying, unless of course the processes by which apparatuses assume a materiality remain hidden and all that is discernable is the immediate, indeed magical, emergence of apparatuses. But this still ignores the processes by which apparatuses are formed. Thus, we must remain skeptical of the claims made by D&G about the ‘magical’ emergence of the State. This, as we will see has a significant impact on how D&G discuss, among other things, war-machines and war and their relation to the State.

For the moment, however, we should not fail to acknowledge the advantages that have accrued to our project of attempting to read the emerging

⁵⁸ Ibid., p 359

⁵⁹ Ibid.

theories and doctrines of NCW with D&G. D&G show us how by adopting a stance that prioritizes connection and relation, and one which recognizes that outcomes (events) of those relations are not determined in advance by intrinsic properties, we are able to, at the very least, attempt a re-problematization of war. We have also seen how war, as a consequence is able to move beyond the purview of the political and finds a place in a multiverse characterized by forces, intensities, flows and networks.

Interlude

One False Step: On War and war-machines or,

*...What you believe is fantasy...*⁶⁰

At the outset, let us remind ourselves that for Deleuze, violence - which he clarifies in the context of transcendental faculties - is that which “forces it [faculties] to be exercised, of that which it is forced to grasp and which it alone is able to grasp, yet also that of the ungraspable (from the point of view of its empirical exercise).”⁶¹ In this way, violence emerges as a fundamental condition of thought for Deleuze. Thus, he notes, “[T]hought is primarily trespass and violence, the enemy...[thus]...The conditions of a true critique and a true creation are the same: the destruction of an image of thought which presupposes itself and the genesis of the act of thinking in thought itself.”⁶² As such, violence is not simply in excess of all forms of apparatuses, strata and machines, it is their condition of possibility.

Now, D&G, based on their reading of Dumezil’s work on Indo-European mythology,⁶³ observe that...

⁶⁰ Black Sabbath, “Computer God” in *Dehumanizer*, 1992

⁶¹ Deleuze, *Difference and Repetition*, p 143.

⁶² *Ibid.*, p 139

⁶³ See Georges Dumezil, *Mitra-Varuna: An Essay on Two Indo-European Representations of Sovereignty*, Trans. Derek Coltman, (New York: Zone Books, 1990)

...political sovereignty, or domination, has two heads: the magician-king and the jurist-priest. Rex and flamen, raj and Brahman, Romulus and Numa, Varuna and Mitra, the despot and the legislator, the binder and the organizer. Undoubtedly, these two poles stand in opposition term by term...But their opposition is only relative; they function as a pair...as though they expressed a division of the One or constituted in themselves a sovereign unity...”⁶⁴

They then go on to suggest...

...lacking a mythology of conflict...The two together exhaust the field of function. They are the principal elements of a State apparatus that proceeds by a One-Two, distributes binary distinctions...It is a double articulation that makes the State apparatus into a *stratum*.⁶⁵ (emphasis in original)

D&G then begin to draw their diagram of the State apparatus by contrasting it to not simply the war machine, but also (often in an implicit key) to ‘war’ which, as they note, “is not contained within this apparatus.”⁶⁶ They assert...

Either, the State has at its disposal a violence that is not channeled through war – either it uses police officers and jailers in place of warriors, has no arms and no need of them, operates by immediate, magical capture, seizes and binds, preventing all combat – *or*, the State acquires an army, but in a way that presupposes a juridical integration of war and the organization of a military function. As for the war-machine in itself, it seems to be irreducible to the State apparatus, to be outside its sovereignty and prior to its law...⁶⁷ (emphasis in original)

⁶⁴ D&G, *ATP*, p 352

⁶⁵ *Ibid.*

⁶⁶ *Ibid.*

⁶⁷ *Ibid.*

It is necessary to pay close attention to D&G's words for our interest lies not simply in the war-machine that D&G describe and the economy of relations that it shares with the State apparatus, but also in their assertion that the activity of the State (apparatus) that we generally construe as war, is *not* war, but *a* violence (police power *and* military power) for, in their words, war "comes from elsewhere."⁶⁸ To all intents and purposes, therefore, for D&G, war - like the war-machine - is (1) outside law (that is to say, from or located outside the ambit of the juridical network that the State apparatus produces); thus, (2) outside the sovereignty of the State apparatus; and, in the last instance, (3) irreducible to the State apparatus.⁶⁹ To the extent that the State apparatus *makes* the war-machine its own, it does so by capturing/ ensnaring/ seducing/ stratifying war with/in its thanato-juridical networks, which serve, rather strive, to integrate the war-machine (and by extension, war) to the State apparatus. Then, of course, there is the curious case of police power. Let us consider these matters a little further.

D&G further suggest that a State (apparatus) exhibits, among other things, the following features: (1) It lacks a mythology of conflict, which we should be careful to note, *does not, and should not, suggest the lack of a mythologizing (cap)ability* and, (2) driven by two principle elements – represented, for example, by Mitra and Varuna – State apparatuses exhibit/betray a One-Two distribution/movement. It is instructive to note that without denying the generally anthropocentric organizing principles of the more common 'mythologies of

⁶⁸ Ibid.

⁶⁹ Ibid. Recall in this context the original question posed by this study: What if the relation of war to the political is like that of the uncircumscribed to the field of its circumscription? See pp, 16-17 above.

conflict' (that is to say, our *strategic histories*), it is possible to contextualize these *strategic histories* against the One-Two movement that D&G ascribe to the State apparatus. Indeed, D&G's points of reference - "Rex and flamen, raj and Brahman, Romulus and Numa, Varuna and Mitra, the despot and the legislator, the binder and the organizer" - allow us to chart the progression of these *strategic histories*.

We should also remind ourselves that D&G make these observations in the context of 'political sovereignty or domination'. Thus, the emphasis that they lay on the Absolute binary distribution of the State apparatus - '*Either, the State...or, the State...*' - may tempt us to dedicate our attention to what they suggest is *the* singular expression of the State (apparatus) brought into focus by its One-Two distribution/ movement - *either* 'pure' police power *or* 'pure' military power. Now, from what D&G suggest, it would appear that the State apparatus' expression of violence is pendulum-like - swinging from police power to military power and back - *and* is relative to the contingent present. This directly corresponds to the One-Two distribution that D&G draw our attention to. There is, however, another possibility. As the One, that is to say, as the (sovereign) Unity, the State apparatus may also be said to express itself in a third way, which is fundamentally indistinguishable from either military power or police power. To appreciate the significance of the indistinguishability between military and police power - the third expression of violence of the state apparatus - it will be beneficial to cast an eye on the etymological backdrop of a word that D&G

associate with the State – “stratum”. Etymologically, the word “stratum” suggests
a...

"horizontal layer," 1599, from Mod.L., special use of L. stratum "thing spread out, coverlet, pavement," from neut. pp. of sternere "to spread out, lay down, stretch out," from PIE *stre-to- "to stretch, extend," from base *stere- "to spread, extend, stretch out".⁷⁰

Note also the close relationship ‘stratum’ shares with ‘structure’, which since...

"c.1440, [has been identified as an] "action or process of building or construction," from L. structura "a fitting together, adjustment, building," from structus, pp. of struere "to pile, build, assemble," related to strues "heap," from PIE *stere- "to spread, extend, stretch out" (cf. Skt. strnoti "strews, throws down;" Avestan star- "to spread out, stretch out;" Gk. stornymi "strew," stroma "bedding, mattress," sternon "breast, breastbone;"⁷¹

Based on this admittedly cursory etymological overview, D&G’s use of the word ‘stratum’ is significantly instructive. It is clear that D&G – by referring to the binary distributions of the State (apparatus) - want to draw our attention to a becoming-structure (becoming-State apparatus) by a One-Two movement. At the heart of the matter is the question of ‘movement’ and it is important to recognize that it is not the more qualified movement-as-direction, rather, it is movement-as-‘distribution’, as is reflected in the PIE roots of ‘stratum’ – ‘to spread, expand’.

Thus, it could be said that the ‘movement’ of the State (apparatus), which is

⁷⁰ Online Etymology Dictionary – available at
<http://www.etymonline.com/index.php?search=stratum&searchmode=none>

⁷¹ Online Etymology Dictionary – available at
<http://www.etymonline.com/index.php?search=stratum&searchmode=none>

Mitra's and Varuna's movement, is an 'expansive' one and that, as such, it lends to the consistency of the State as an apparatus/ structure to form a *stratum*. But can such a consistency be achieved and maintained when the pendulum of force (expressed as military and police power) swings violently from one extreme to another? To respond to this question, we must first address the issue of whether the movement of the State apparatus is indeed as abrupt and binary as D&G's 'binary distribution' suggests.

It is important to recognize that the way in which D&G present their diagram of the State apparatus, the 'phase' wherein the State apparatus expresses 'pure' police power or 'pure' military power may be considered as being 'end-states', that is to say, they are – in their individual ways – the maximal expressions of the State apparatus. Thus, we cannot fault D&G when they overtly suggest that the State apparatus can *only* express *either* military power *or* police power. Perhaps this goes some way to explain an assertion by D&G, which we have had occasion to note earlier. In the context of war-machines, D&G noted that the...

worldwide war machine, which in a way reissues from the States, displays two successive figures...the first that of fascism, which makes war an unlimited movement with no other aim than itself, and the second...the war machine reforms smooth space that now claims to control, to surround the entire earth.⁷²

⁷² D&G, *ATP*, p 421 See also p 19 above.

This corresponds directly with the elements of the One-Two movement that D&G allude to. Thus, in keeping with the ‘unlimited movement’ of the State apparatus (“which makes war” and which D&G say is ‘fascism’) and its reformation of smooth space, military and police power represent the essential ‘movement’ of the State apparatus itself. But matters are more deceptive and complex. D&G suggest that the twin movement of the State apparatus (expressed in terms of military and police power) are successive, that is to say, they follow each other. Further, D&G’s words also suggest that the *first movement* of the State apparatus is that of military power which, D&G assert, is the signature of the appropriation of war by the State apparatus and of its enmeshing by means of its juridical networks. Only after this does the State apparatus express itself in terms of police power, which reforms smooth space by striating it. In other words, it would appear that the State apparatus first ‘captures’ space by exercising military power, which it then reforms using police power.⁷³ The question, therefore, arises whether the State apparatus can express itself in both ways simultaneously and non-sequentially? Indeed, in the Age (and context) of Network-centric Warfare, would it not be more appropriate to discuss the expression of the State solely in its originary terms as the One Unity, that is to say, in terms of the in-distinguishability of the State apparatus’s police and military powers?

⁷³ In this context, one is immediately reminded of the Einsatzgruppen that followed the Wehrmacht into battle, particularly on the Eastern Front. As the ‘military war’ was being waged on the edges of the frontlines by the Wehrmacht, in the rearward areas, the Einsatzgruppen was engaged in what was, more often than not, the grisly task of striating the smooth space that had been produced by the military power of the Wehrmacht. See, for example, Christopher R. Browning, *Ordinary Men: Reserve Police Battalion 101 and the Final Solution in Poland*, (New York: Harper Perennial, 1998), For an equally graphic but partisan and ultimately skewed account see, Daniel Jonah Goldhagen, *Hitler’s Willing Executioners: Ordinary Germans and the Holocaust*, (New York: Vintage Books, 1997)

Recall, in this context, that it was Foucault who, among others, alerted us to the violence that a State apparatus expresses by means of, among other things, its juridical networks.⁷⁴ While this is certainly true of military power, but when compared to police power, we find that the latter shares an immediacy with the juridical networks which is not the case with the former. The critical point to note, however, is that either way the expression of the State apparatus, in the form of juridical networks, is *always-already* violent. The significant qualification within this expression of violence lies in precisely how the expression of police power provides, indeed contextualizes, the possibility of a State apparatus' expression of military power. In this way, it could be said that unlike the more common thematic of International Relations, the *telos* of military power does not lie in peace - rather, it lies in the affirmation of the originary violence of the State apparatus expressed as police power. In other words, the State apparatus' expression of military power only serves to reinforce its expression of police power. What this would suggest is that unlike the war that the State apparatus manages to integrate (from the outside, or the 'elsewhere') with/in its juridical networks, *the ecology of police power is local to the State apparatus*. It is pre-integrated and thus, it "seizes and binds, preventing all combat...captures by magic...has no arms and no need of them..."⁷⁵ If one can indeed ascribe a *telos* to police power, it would be nothing less than an unconditional (re)affirmation of itself in the form of what D&G perceptively identify as a 'terrifying peace.' Thus, when the State apparatus violently – this economy of relations from State-side

⁷⁴ See, for example, Foucault, *Society Must be Defended and Security, Territory and Population*.

⁷⁵ D&G, *ATP*, p 352

being an expression of violence as military power - attempts to integrate/ enframe, *gestell* 'that which comes from elsewhere' with/in itself, it wages war, but it does so only to affirm the originary violent expression of the State apparatus.⁷⁶

We have already established that the State apparatus, which D&G refer to in originary terms as 'the One...Unity', expresses pure violence which, when referring to the One...Unity, remains unqualified as either police or military power. In other words, police power and military power, when expressed by the State, only serve as qualifications (or aspects) of the essential ontological expression of the State apparatus – violence. Put differently, we could say that the State apparatus – as a *stratum* – expresses a violence that is (1) not only different from that of war, but (2) is one wherein military and police power are indistinguishable from one another. The State apparatus, expressing its originary violence as both police *and* military power, thus 'expands', that is to say, it moves laterally, but imperially, by *making war* to capture 'space' – smooth space - which it then reforms as 'striated space' by the exercising of police power. From D&G's statements on the matter we know that military power is the result of the integration of war by juridical networks. This suggests that war, like an unwelcome intruder, who 'comes from elsewhere', somehow comes in contact with the State apparatus which, in a combative (but defensive) mode, attempts to reduce the force of war by containing it (by first capturing it) within juridical

⁷⁶ Recall in this context that it was Michel Foucault who alerted us to the 'disciplining' power of the State. Deleuze also alludes to this, though he updates Foucault's insight, by referring to the emergence of 'control societies'. See, Gilles Deleuze, "Postscript to the Societies of Control", This essay first appeared in *L'Autre journal*, no. 1 (May 1990). Available at <http://www.watsoninstitute.org/infopeace/vy2k/deleuze-societies.cfm>. Last accessed on Jan., 2008.

networks. On the other hand, it could also mean that the originary expression of the State apparatus – as an assemblage of juridical networks - is always-already violent and offensively-oriented. Note that in the latter case, the State apparatus aggressively, or more accurately, in an offensive mode, reaches out *in/to war* and seeks to tame it, to enframe it, to *ge-stell* it - by integrating it.

The above discussion makes it clear that the State apparatus, which is not simply born *as*, but which also lives *as* violence exhibits an originary violence that is pre qualification. It is important to correlate this to the war that the State apparatus comes in contact with. Reid, in this context, provides a valuable insight.

He notes:

The value of Dumézil to Deleuze is twofold. First, Dumézil demonstrates that the attempt to strategise a relation between the state and the war machine is a manoeuvre found repeatedly in the mythological representations of sovereignty dating back to the earliest records of Indo-European civilisation. Second, he demonstrates that in spite of this attempt of the state to strategise a relation between itself and the war machine, the latter remains in a ‘milieu of exteriority’, located outside of the state apparatus and possessing the metamorphic power which Deleuze argues accrues to alterity.⁷⁷

Taking care so as to avoid falling into the banality of assessing the validity of Dumézil’s ‘colonial’ account of pre-Vedic and Vedic mythologies, which in itself is highly problematic, let us focus instead on the ‘milieu of exteriority’ wherein,

⁷⁷ Julian Reid, “Deleuze’s War Machine: Nomadism against the State”, *Millennium: Journal of International Studies*, Volume 32, Number 1, 1 February 2003, pp. 57-85. See also Georges Dumézil, *The Destiny of the Warrior* (Chicago and London: University of Chicago Press, 1969). See also D&G, *ATP*, pp 351-354.

as Reid points out, D&G locates the war machine. It is also necessary to forewarn ourselves that our approach, in this context, will be unconventional – an ‘indirect approach’⁷⁸ - and will entail looking closely at how Deleuze (and Guattari) are able to posit what appears to be a radically in-human approach to the question of war, war machines and State apparatuses.

Recall that D&G suggest that that the One-Two movement of the State (military power and police power) leads in once sense to Fascism (more commonly as instances of micro-fascism), while on the other it leads to ‘unlimited movement’. Now, this is where matters really get complicated. The One-Two movement that D&G associate with the State apparatus is an ‘unlimited movement’ itself for if it were otherwise it would signal the atrophying of the State apparatus. Thus, we are forced to ask: Is this unlimited movement creatively unlimited, or is it the movement associated with the eternal recurrence of the Same - in which case, it is no different from the fascism that D&G refer to. Why is this question being posed here? Because, (1) perpetual war - the condition of fascism that D&G refer to - is unlimited movement and (2) unlimited movement which, paradoxically, is only possible in smooth space, leads to the condition of terrifying peace where the State ends up as one of the appendages of the war-machine which, while admittedly is a supra-state condition, is also a condition which cannot be wholly outside the circumscription of the State (that is why the State ends up as being an appendage, that is, a part of the whole). Either way, it

⁷⁸ Curiously, Liddell Hart premised his account of military theory on in-direct-ness and advocated a ‘strategy of indirect approach’. See Basil Liddell Hart, *Strategy*, Second Revised Edition, Part IV

ends up being a fascistic condition, which while being ‘in excess’ of the State, yet remains grounded in and with it. All this is in accordance with what D&G suggests, but then, if this argument holds, we need to recognize that the ‘war-machine’ is not a creative creature, rather it is a fascistic creature – in both its guises – as military AND police power. And, secondly, we need to recognize the urgency to investigate the originary status of D&G’s war-machine.

But before we get into the business of interrogating the war-machine, let us clear up one small matter – D&G would like us to believe that the consequence of the war-machine running amuck is that the State becomes an appendage to the war-machine...the prelude to the era of terrifying peace...more terrifying than ‘total war’. The way D&G put it, it would suggest that prior to the war-machine making the State its appendage, the State (as an apparatus) had only one form of violence at its disposal – police power. It is only AFTER the State comes in contact with its Other, that is to say, only after the State comes in contact with the Nomad, does it begin to understand that ‘other’ violence embodied in war. But then again, D&G state, that the State moves in a One-Two step – police power AND military power. So, we would assume that this One-Two movement is only possible AFTER the State comes in contact with the Nomad *and* AFTER it has appropriated the ‘war’ that the Nomad brings with it. And, how does the State acquire this military power? It does so by enmeshing ‘war’ (that which is introduced to the State by the Nomad) within its thanato-politico-juridical networks, which we should not forget are the sinews of its police power. So,

where does this leave the war-machine, which is ‘irreducible to the State apparatus... outside its sovereignty and prior to its law’? The follow-up question to this, of course, is related to ‘War’ itself, which, if we are to believe D&G, is the endemic condition of ‘the nomad’ whom the state seeks to ‘territorialize’.

To pose a workable response to these questions, we will need to take a step back and look at D&G’s explanation of what the war-machine is. In simple terms, the war-machine is an abstract machine, that is to say, it is an assemblage that, while fluid, also displays a peculiar kind of a coherence to it, albeit a coherence that is very different from that which the State as an apparatus exhibits, which is grounded in Reason. But in light of what has been discussed, the two questions that we have posed above may be presented as follows: Firstly, is or is not the war-machine an assemblage of a completely different order from that of the State? D&G would like us to believe so.⁷⁹ What we have seen thus far, however, suggests that in this instance D&G arguments regarding the war machine may be misleading for, as we have seen, the war machine does not populate a milieu exterior to the State; rather, the war-machine emerges out of the State to populate the milieu of exteriority as the prelude to the mapping of the exterior as the interior. D&G of course suggest that what does emerge out of the State is not the war-machine but the ‘institution of war’, that is to say the Military.⁸⁰ But the fallacy of this assertion stands exposed when we consider the second question which relates to ‘war-as-such’.

⁷⁹ D&G, *ATP*, p 230

⁸⁰ *Ibid.*, p 418

D&G suggest that ‘the nomad’ is the originary expression of ‘war’ – that which comes from elsewhere’. But this is D&G being disingenuous. Why? Because the co-relation between the Nomad and the State is clear. The Nomad is the Other of the State. The Nomad is the signature of that what is always-already in Resistance to the State. But it is curious, is it not, that while the Nomad is the Other of the State by virtue of its being the Outsider to the State, it actually achieves its status as the Outsider in relation to the State. In this way, the State (1) can appropriate the Nomad because, among other things, it knows its Other, (2) it (the State) recognizes the power of the Nomad (that is, the force behind the power of resistance), which it seeks to incorporate within itself by means of the war-machine, and (3) as a consequence, that what the State appropriates is not the war that comes from elsewhere, but a war which, we should be careful to note, now in a revised form, comes from the relation that the State shares with its Other, the Nomad. In this way, the Nomad-State relation which provides much of the justificatory arguments that D&G use to place the war machine, indeed war, in a milieu of exteriority vis-à-vis the State fails to exhibit the relations between war and the political that we originally referred to at the outset of the study as the relation “of the uncircumscribed to the field of its potential circumscription.”⁸¹ Thus, while not wholly dismissing D&G’s thesis on the Nomad, we need to retain a degree of skepticism about the co-relation that they draw between the Nomad and the war that comes from elsewhere. As we will see in the following section, D&G’s thesis on war and Nomads does work, but only if a variation is made in understanding the operability of the Nomad.

⁸¹ Land, *The Thirst for Annihilation*, p 130

For the moment, however, we should not ignore the contradictions that have arisen in the context of how D&G locate war and the war machine in a milieu of exteriority. Nevertheless, we should also not overlook the fact that how by abandoning the grammar of the Real that underwrites the classic Clausewitzian martial paradigm with which we are so familiar, Deleuze (and Guattari) lead us - via the 'ruin of representation' - to a multiverse where/in the possibility of thinking war differently and thinking differently significantly present an instance of becoming-different.

...and when the walls fall down...

In the first chapter of this study, we had occasion to critique Hallward's critique of Deleuze's (and implicitly, of D&G's) philosophical posture. As will be recollected, our rebuttal of Hallward was sharp and brusque. But this should not blind us to the contradictions that we have found residing within D&G's philosophical system - of which at least one has been examined by us in the context of war machines and war. Yet, as will become apparent as this section of the study progresses, we will continue to use some of the words that D&G have coined, the concepts that they have created, and we will continue to clone the essential nomadism that has distinguished Deleuze's (and Guattari's) philosophical work – albeit at slight curve.

Now, Mullarkey tells us that 'Deleuze's concept of the virtual and actual (which are as critical to his philosophical *oeuvre* as are the concepts of 'becoming' and 'difference' that we have seen above) is an example of a decisional thought with its own *mixte* – different/ citation, which (dis)joins the virtual and actual'.⁸² Indeed, with specific reference to D&G's writings on the plane of immanence, Laruelle insists that "[T]he plane itself is, syntactically and reflectively, what qualifies pure immanence such that it becomes 'the property of the plane, of a universal, etc...Deleuze's continual invention of anti-dualistic terms...[do] not conceal the arbitrary decision to denounce transcendence as

⁸² John Mullarkey, *Post-Continental Philosophy: An Outline*, (London: Continuum, 2006), p 143

theological.”⁸³ Thus, as Mullarkey puts it, “[T]he plane of immanence, in its very syntax of being ‘to’ something (even ‘to itself’), gives it away as an ‘axis of transcendence.’”⁸⁴ While we, in light of our discussion thus far, cannot say that we have been exposed to a direct reference to such a contradiction in D&G’s philosophy, we have, however, noted that even when cast against a sophisticated backdrop involving rhizomes, chaosmos, immanence, assemblages and apparatuses underwritten by (a)periodic difference and repetition, D&G’s discussion on war machines and war have seemed fractured and disjointed and, as a net assessment, frankly contradictory.

Let us now briefly look at particularly that contradiction that we find at play in D&G’s exegesis on war machines and war. D&G claimed that war machines, like war, ‘comes from elsewhere’ – that is to say, from outside the state apparatus. But, as we have seen, this is not the case. Even if we think in terms of the free flow of forces, the loose consistency of assemblages and progressively calcifying apparatuses (and the corresponding networks that they individually and collectively give rise to), we find that D&G, though claiming an absolute exteriority on behalf of war machines and war, draw the motive forces animating war machines and war from an originary locus within networks of forces that are being progressively arranged and re-arranged densely. The consequence of this we found most starkly highlighted in how the violence that the State – as an apparatus – expresses was more a function of the State being an apparatus (and, in

⁸³ Ibid.

⁸⁴ Ibid.

this sense, a particular expression) of violence, rather than violence being an expression of the State. The implications, as we have seen in the context of our discussion above, are immense. Thus, for example, we were able to see how when D&G suggest that the ‘nomad’ is the originary expression of ‘war’ – that which comes from elsewhere’ – this expression of war, despite its apparent exteriority, remains ensconced with/in an interiority - in the State - for it is only in the context of the state (apparatus) that the nomad attains or is able to express the infinite speed and movement of nomadism. Additionally, we have no clarity on the matter regarding whether nomadism ‘recognizes’ or even finds relevant the State-apparatus at all, and if it does, how does this ‘recognition’ take place and what is the ‘relevancy’ that is established between the nomad and the State apparatus. Note that this does not contradict the infinite speed and movement that D&G refer to in the context of the plane of immanence or, for that matter, of the nomad. But we should certainly make note of the point that nomadism is the condition of the plane of immanence (where we understand ‘condition’ in all its senses), and as such, is also immanent in itself. Thus, to say that the speed and movement of the Nomad is discernable in the context of the State apparatus (specifically in D&G’s allusion to war) is to restrict and circumscribe the infinite speed and movement of the Nomad, and by extension, of the planes of immanence by the *stasis* that the State apparatus exhibits. It will be recalled that we had discussed planes of immanence in two senses – as particular planes of immanence and THE plane of immanence. Thus, unless the assertion is made that THE plane of immanence somehow – even if only under particular and specific conditions/ circumstances -

loses its immanence in apparatus-like structures - an assertion that would mortally affect the viability of the entire Deleuzian project – it is difficult to understand precisely how the Nomad's speed and movement can be reduced to the State apparatus.

Recall also that even before we reached this point, we had already asked a critical question of D&G. We had asked whether the war machine (which we know, going by what D&G tell us, is an assemblage) is of a different 'order' than the State apparatus. We asked this because – again going by what D&G have described – we have seen how apparatuses emerge as assemblages calcify. It is not important at this stage to reflect on why and how assemblages calcify. We will come to that a little later. The point that we are trying to make here is a much simpler one. What we are suggesting is that apparatuses necessarily emerge from assemblages and while there may be an unlimited number of assemblages and resulting apparatuses, the sequence of emergence is always led by the emergence of assemblages. Apparatuses have their own expression and this expression is necessarily violent for, as we have seen, it is only by the expression of violence that (state) apparatuses can expand imperially, that is to say, they can organize smooth space by striating it. Thus, unless D&G are referring to at least two kinds of war (which they are certainly not), the war, which according to them comes from elsewhere, actually comes from the state apparatus and not elsewhere. The consequence of this for D&G, of course, is that despite their, one assumes, best efforts, they are unable to talk about 'war' – that which comes from elsewhere.

But, in the wider context of Deleuze's (and D&G's) project, the fundamental problem, if we follow Mullarkey's exegesis on Laruelle's work, is not necessarily in the arguments that D&G offer – rather, it is in the syntax that D&G use to describe what ultimately is their 'project' of immanence for it, inadvertently, involves a decisionism that forces immanence into transcendent forms. Thus, "Deleuze fools himself into thinking that empiricism goes beyond transcendence when in fact it is simply another form of it, perhaps the most dangerous form because of its self-misunderstanding."⁸⁵ Indeed, there is another issue that is at play in Deleuze's work, which we should make a note of. As Mullarkey advises us, "Deleuze posits his plane of immanence as a virtual *reality* positioned below another world, that of the actual molar realities. It is the actual that is subordinate to the virtual. Despite thinking of immanence in its purest form possible...he still proposes a two-world ontology when explaining these ideas."⁸⁶ It is therefore not surprising that our engagement with D&G in the context of war and war machines reveals a number of layers which are not strata, but which are arranged hierarchically across the Real, the Actual, and the Virtual. These we identified as chaos, planes of immanence, rhizomes, assemblages and apparatuses/structures. Additionally, we found that these layers are also ordered – particularly in terms of their density, which is nothing but a signature of movement and its increasingly diminishing presence as we move from the state or condition of the undifferentiated movement at infinite speed of chaos into the structured (limited) motion endemic to the suspended animation of the stage that the theories and

⁸⁵ Ibid., p 144

⁸⁶ Ibid., p 8 - Emphasis in original.

doctrines of NCW claim as their (ideal) operative ecology. None of this, however, should de-value the intention with which D&G articulate their project and thus, their insistence on immanence is not contested. Instead, what is being suggested is that by strictly following a metaphysical approach to the problem of immanence, which Laruelle suggests is implicit in Deleuze's philosophical project, we need to seriously re-consider if and how a philosophy of immanence can work at all? From the perspective of this study, this question is of critical importance because though we have profited by reading the history of military thought and the evolution of the NCW theories with Deleuze (and Guattari), his philosophy of immanence nevertheless falters when it considers the question of war-as-such. Naturally, we would be moved to ask: how then is it possible to not simply talk about immanence, but to assert war as/in immanence?

What we need, therefore, is an unproblematic start-point, which Laruelle identifies as the "vision-in-one, which is described as "the 'being-given which is without-giveness' – a givenness *without* a 'background' of givenness (in case any theological interpretation is suspected)."⁸⁷ Thus, as Mullarkey tells us, Laruelle's starting point is the Real, which is a thought without any conditions at all.⁸⁸ As a consequence, Laruelle achieves 'escape velocity' in this regard by suggesting the non-philosophical as being absolutely self-sufficient. For our purposes this is eminently suitable because to respond to the question of war and

⁸⁷ Ibid., p 145 - Emphasis and parenthesis in original.

⁸⁸ Ibid., p 144

immanence - as posed above - with any form of 'logic' would only serve to detract from immanence and to transform it into a schematic of transcendence.

One such account of the 'vision-in-One' is found in a patently non-philosophical (for it is held to be either spiritual and/ or religious) text, namely, the Bhagavad-Gita (hereafter Gita). In it, on the eve of the Battle of Kurukshetra, Krishna and Arjuna discuss precisely such a vision-in-One...

With numerous mouths and eyes, with numerous wondrous sights, with numerous celestial ornaments, with numerous celestial weapons uplifted;

Wearing celestial garlands and apparel, anointed with celestial-scented unguents, the All-wonderful Resplendent, Boundless, and All-formed.

There...the son of Pandu then saw the whole universe resting in one, with its manifold divisions.⁸⁹

When considered in the context of not simply the philosophies that have underwritten the theories of war and combat since the classical age, but also in the context of D&G's sophisticated account of immanence, this vision-in-One is "heretical, Gnostic knowledge, a science in the pure sense, an experience of the Real. And though one might regard this Real as an abstraction, we cannot [be] accuse[d] of not accounting for this abstraction...." for we, following Laruelle, unambiguously claim to abstract the Real or the One.⁹⁰ The One is an abstract-

⁸⁹ BG, Chap. XI, #10, 11, 13, pp 246-247

⁹⁰ John Mullarkey, *Post-Continental Philosophy: An Outline*, p 145.

without-an-operation-of-abstraction.⁹¹ Now, if it is asked, “why is the experience of the Real an experience of the One...why is it a vision-in-One?” Mullarkey provides us with the necessary response – “Because of Immanence. The One is highly non-relational...The One is indifferent to all. It is not immanent *to* anything, but immanent *in* itself. Hence, the experience or vision-in-One cannot be intentional or representational in any way.”⁹²

This then is the vision-in-One with which we will begin to outline an account of *Intensive War*. It should be reiterated that what we are attempting to do here is not to posit a theory of war. Rather, we are seeking the possibility to articulate the intensiveness of war that we claim is always-already present in the more common theorizations of what can be broadly gathered under the rubric of Clausewitzian (or extensive) war.

Thus,

- i. *Intensive War* is first and foremost, an immanence, which specifically means a condition that carries “with it the events or singularities that are merely actualized in subjects and objects.”⁹³ It is, as the Gita puts it, the/a beginning, middle and end. In other words, it Is...always becoming.⁹⁴ Further, “this is never born, nor does it die. It is not that, not having been, it again comes into being...It is not that

⁹¹ Ibid.

⁹² Ibid. Emphasis in original

⁹³ Deleuze, *Pure Immanence: Essays on A Life*, p 29

⁹⁴ BG, Chap II, #28, p 45

having been, It again ceases to be. This is unborn, eternal, changeless, ever-Itself...”⁹⁵ Given this, events and singularities – such as NCW and other theories of war and combat, the State, *anthropos* and *Thanatos* – can be said to be informed by *Intensive War* - infinitely and indefinitely – without beginning, middle or end. Thus, *Intensive War* (unlike in the case of Clausewitzian (or extensive) War where battlespace is a distinct and independently identifiable space or domain) is *Battlespace*. As we have seen, the theories and doctrines of NCW, marked by their spillage over and across the Physical, Cognitive and Informational domains veer close to this. Yet, as we have also seen, despite the distinct possibility of the NCW theories to account for a ‘full spectrum’ battlespace, this accounting is always-already limited for it presumes a ‘closed system’ or, in D&G’s terms, the complete striation of smooth space.

Intensive War – as battlespace – is an onto-force-plane. It would be inaccurate – indeed, unnecessary – to attribute chaos to *Intensive War*. Rather, it would be more productive to understand *Intensive War* as indistinguishable intensities of force across infinite magnitudes. Thus, *Intensive War* is marked by infinite movement at infinite speed, though it is often mistaken to be a condition of tranquility. This tranquility is, of course, a function of infinite movement at infinite speeds. It is important to also note that events and singularities are always-already embedded in *Intensive War* though this always-already embeddedness is in terms of their potentialities rather than in terms of their physicalities. We have avoided using the word ‘actuality’ in this context because

⁹⁵ Ibid., Chap II, #20, p 40

the embedded potential of events and singularities are both Actual and Real. Further, *Intensive War/* battlespace is characterized by crests and troughs as the diagram below highlights.

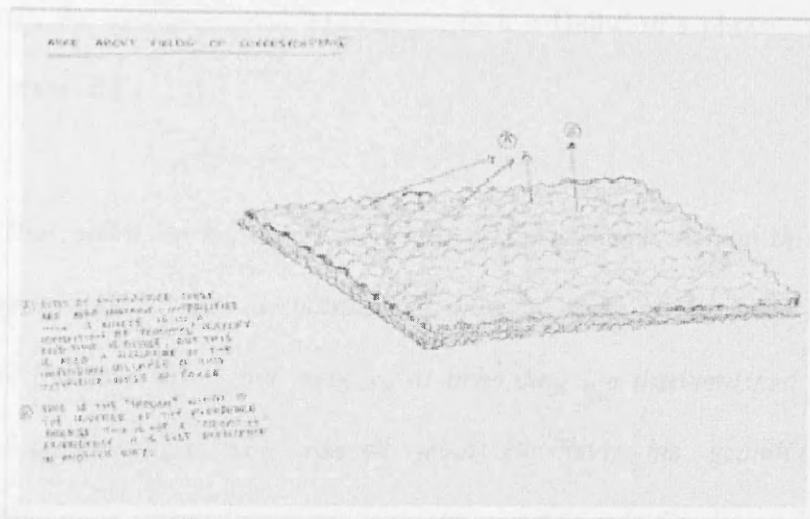


Figure 13: *Intensive War/ Battlespace/ Onto-force-plane*
Image by Author

These mark the ebb and flow of intensities of force. It is important for us not to (mis)understand ‘trough’ to mean or indicate a reduction of any sort. It is not a subtraction or a division of any kind. Additionally, we should note that ‘trough’ (in this specific context) is not the opposite of ‘crest’. We should also note that this invigorating intensive force that crests and troughs is *Lila*, the ‘flux’ of which is recognized by its intensity, which is disruptive, destructive, deconstructive and in this sense, creative. *Force, therefore, is intensity, which is ‘sensed’ both as a Rhythm and as Texture*, and which can only be rhizomatically drawn in terms of a ‘differential geometry’ of Becoming-X. Note that the crests and troughs of onto-force-planes are the signatures of Rhythm and Texture, that is to say, they are a-

periodic signatures of intensities-in/as-flux. Battlespace, thus outlined, is at first glance very far removed from the 'space' of battle that we are more familiar with. Indeed, when compared to the descriptions and accounts of battlespace that we find articulated, suggested and affirmed by the theories of war (past, present and emerging), the above-outlined battlespace, to use Hallward's phrase, is simply 'out of this world'.

Thus, when, on the eve of the Battle of Kurukshetra, Arjuna threw down his weapons and fell into despair at not only the sight of the large and well equipped Kaurava Army, but more so at beholding the distinguished array of Kaurava commanders who ranged from Bhishma, his grandfather, to Dronacharya, his teacher/ guru, to his relatives and friends, Krishna's discussion of precisely such an expansive and intensive battlespace may have certainly seemed incongruous and, from Arjuna's perspective, rather less-than-helpful. And, what were the principal reasons for Arjuna's despair? As a military commander and warrior of the first order (after all, Krishna himself refers to Arjuna as 'the scorcher of enemies'), undoubtedly, victory and defeat would have been of concern to him. But Arjuna was also afflicted by a moral resignation that resulted from his knowing that by engaging in battle, he would be stained with the blood of countless individuals including of those near and dear to him. Krishna's rejoinder to him is sharp, immediate – "He who takes the self to be the slayer, and he who takes It to be the slain neither of these he knows. It does not slay, nor

is it slain.”⁹⁶ Thus, Krishna insisted on discussing this ‘out of the world’ battlespace, by saying, “...Knowing this one attains the highest intelligence and will have accomplished all one’s duties, O descendent of Bharata.”⁹⁷ Note how, in one stroke, among other things, Krishna moves the discussion that began with Arjuna’s primarily anthropocentric concerns onto a non-human level.

Now, despite the long and detailed discussion between Krishna and Arjuna, the latter remained in doubt. It could be said that Arjuna was unable to envision the vision-in-One that Krishna was attempting to describe. It is at this point that Krishna shares with Arjuna the vision-in-One or that which in the Gita is referred to as the Vishwarupa by saying: “See now, O Gudakesa, in this My body, the whole universe centered in one – including the moving and the unmoving – and all else that thou desirest to see.”⁹⁸ And, Arjuna saw the following:

“...boundless form on every side with manifold arms, stomachs, mouths, and eyes; neither the end nor the middle, nor also the beginning...”⁹⁹

Krishna reaffirms this vision-in-One by stating:

“I am the mighty world-destroying Time, here made manifest for the purpose of infolding the world...”¹⁰⁰

⁹⁶ Ibid., Chap. II, #19, p 39

⁹⁷ Ibid., Chap. II, #20, p 335-336

⁹⁸ Ibid., Chap. XI, # 7, p 244

⁹⁹ Ibid., Chap XI, #16, p 249

But even earlier, Krishna had asserted...

“At the approach of (Brahma’s) day, all manifestations proceed from the unmanifested state; at the approach of night, they merge verily into that alone, which is called the unmanifested.”¹⁰¹

To be sure, Krishna also said that

“All the worlds, O Arjuna, including the realm of Brahma, are subject to return, but after attaining Me, O son of Kunti, there is no rebirth.”¹⁰²

We need to address a couple of issues at this point. First, Krishna refers to a movement between that which is manifested and the unmanifested. In the context of *Intensive War*, which we have also identified as onto-force-planes, the question of emergence, which is the movement between the unmanifested and the manifested, needs to be addressed. Secondly, Krishna also curiously suggests that this movement between the manifested and the unmanifested is not necessarily eternal, that is to say, caught in an ‘infinite loop’. In the context of this study, the implication of this last issue also needs to be addressed.

Thus,

¹⁰⁰ Ibid., Chap IX, #32, p 259

¹⁰¹ Ibid., Chap VIII, #18, p 18 - Parenthesis in original

¹⁰² Ibid., Chap. VIII, #16, p 188

ii. *Intensity* is the fluctuations (movements) of the immanent relations in and of force. As such, intensity has magnitudinal and qualitative properties. Intensities are particular confluence of forces. In this sense, intensities are always instants – events as signatures in Time. Thus, it is more appropriate to refer to intensities as *instant-intensities*. As such, instant-intensities exhibit (1) an intensiveness, which is always in-difference with/ from the combinatorial intensiveness that constitute instant-intensities, and (2) movement (understood as varying intensivenesses). Thus, instant-intensities are dynamic and always in flux. Working from the premise that instant-intensities are expressions of force, they can also be said to be always-already becoming. We have already stated that the intensiveness of instant-intensities varies. In other words, instant-intensities, among other things, carry with/in them the potential of attaining and exhibiting a stable equilibrium. This may be understood as a signature of an impending condition of entropy, but only under the specific condition which involves the extraction (alternatively, freezing or densification) of the intensity of the constituting forces of instant-intensities. As such, therefore, they are potentially co-constituents of, what in the context of this study is referred to as, ‘fields of correspondence’. While we will examine these ‘fields of correspondence’ in more detail later, for the moment, we should note that ‘fields of correspondence’ allow us to draw vectors which connect a diverse set of instant-intensities which, particularly under NCW conditions, can quickly become ‘total conditions of possibility’. The diagram below depicts such a freezing of the instant-intensity.

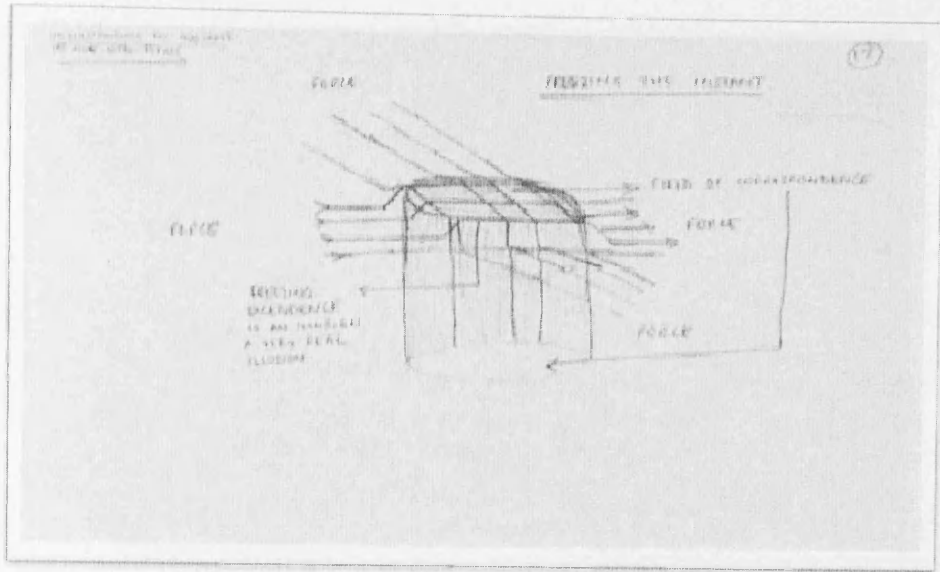


Figure 14: Instant-intensity (freezing)
Image by Author

To better understand how these ‘fields of correspondence’ are developed, we must first, briefly, examine a process endemic to instant-intensities: excendence. It is asserted that *instant-intensities* of force are always in ‘*excendence*’. Borrowing the term from Levinas, in the context of *Intensive War*, it means simply: ‘a-rising’ without departure.¹⁰³ In this sense, *excendence* may be understood as the becoming-intensive of *instant-intensities* and, as such, is an expression of force in terms of flows. In other words, excendence is characterized by the flow of forces and as such, the outcomes of excendence are the crests and troughs that we have referred to above. Note that this becoming-intensive is both the aggregation of intensity and its dispersal. The diagram below attempts a depiction of instant-intensities in excendence.

¹⁰³ See Emmanuel Levinas, *On Escape (De l'évasion)*, Intro. & Annotated, Jaques Rolland, Trans. Bettina Bergo, (Stanford, CA: Stanford University Press, 2003), p 54. See also p 115 en, 4.

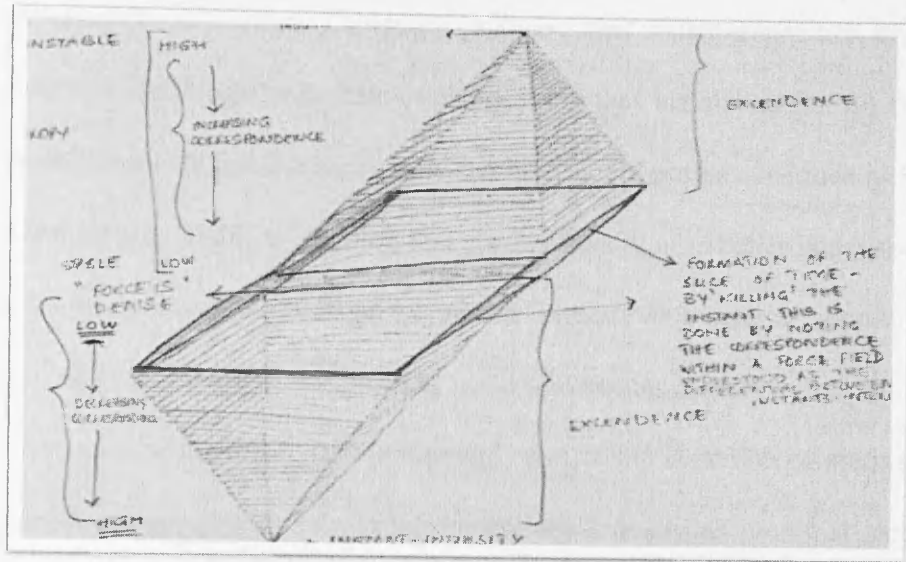


Figure 15: Instant-intensity in Excendence
Image by Author

Intensities of force create *assemblages*, which are differential expressions of ‘formations and de-formations’ made manifest by the process of excendence. Assemblages are creative in the sense that not only do they directly, at infinite speed, express a specific event - a singularity - they also in-form non-local events at infinite speed and at indefinite locales. In the latter sense, assemblages possess a specific quality - *Bhārata*, i.e., ‘being able to carry.’¹⁰⁴ Thus, assemblages ‘carry’ events as a becoming - locally and non-locally. Assemblages are volatile because they are transient aggregations of instant-intensities. Note that the aggregation referred to here is a function (and an expression) of instant-intensities. Instant-intensities, as we have mentioned above, exhibit degrees and

¹⁰⁴ The Sanskrit word *Bhārata* has several meanings. There could be two etymologies for this epithet: (1) It may come from the Sanskrit root ‘bhr’, which means “to bear / to carry”. As Agni was believed to carry the offerings of the Vedic fire-sacrifices to the Heavens, he was given the title of *Bhārata*, as the bearer of sacrificial oblations. (2) It may come as a linguistic derivative of the term *Bharata*. The term *Bharata* again refers to Agni or to the fire-priests of the Vedic Age, and is again derived from the same root ‘bhr’, but here under the sense of “to maintain”. The root ‘bhr’ is linguistically cognate with the English verb “to bear” and Latin “fero”. See http://en.wikipedia.org/wiki/Etymology_of_India. Last Accessed on August 13, 2006.

magnitudes of intensiveness. This further suggests that instant-intensities, at some point seem to reach a point or state or phase where they are stable. But we should be careful to qualify this assertion. This stability should not be construed as being a 'stable state or condition'. Rather, this state or condition is better understood in terms of the proximal location of the instant-intensity to a state or condition of entropy. Note that when at this location instant-intensities acquire a density. This, however, must be qualified. This increasingly densifying condition of the instant-intensity is always-already in a state of withdrawal from this proximal location because, as we have mentioned above, of the processes of excedence that are continually at work with/in instant-intensities. Assemblages are the aggregations of instant-intensities when the latter are in this proximal condition to entropy, which is also why assemblages cannot persist, rather they are always forming and de-forming.

Regardless, however, when instant-intensities aggregate as assemblages, there is, as mentioned above, a densification of intensity that takes place. Thus, the movement that marks intensities slows (however imperceptibly). It is at this stage that instant-intensities are prone to being 'frozen' or 'enframed'. Enframing, thus, is the slowing down of the infinite speed and movement of instant-intensities. Assemblages therefore, may be considered as becoming-enframings, but which, given their open-endedness, that is to say, their transience, never become enframings. However, a collection of enframings in close proximity to each other are able to channel the instant-intensities into an infinite loop, thereby

consigning them to achieve stable states or phases. As a consequence, correspondences are established between such enframings, which are dependent on the closed circuit via which instant-intensities are forced to flow. Note that instant-intensities, when ensconced within such closed circuits, lose their 'instant' nature. Thus, intensities atrophy, that is to say, they deteriorate or more accurately, they become inert, particularly in terms of their being both instant and intense. In other words, instant-intensities, under such conditions are no longer *in* Time, rather they are *of* Time and in this way, they attain a very high degree of stability. This, in turn, enables the establishment of 'fields of correspondences', which also allow for 'truth values' to be assigned and established. The diagram below highlights the establishment of such a 'field of correspondence'.

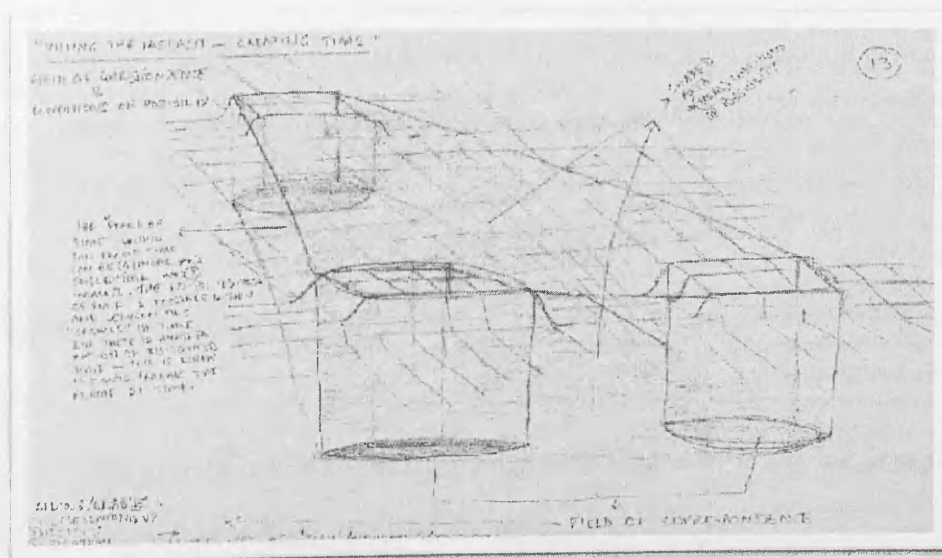


Figure 16: Fields of Correspondence
Image by Author

Arjuna can, thus, be said to be caught up in such a closed loop and thus may also be said to be situated within a number of fields of correspondence by virtue of

being a prince, an heir to a State, a husband, a father, a sibling, a student, a warrior, a comrade etc. It is therefore not surprising that he would ask of Krishna...

“Of what avail is dominion to us, of what avail are pleasures and even life, if these, O Govinda! for whose sake it is desired that empire, enjoyment, and pleasure should be ours, themselves stand here in battle, having renounced life and wealth – teachers, uncles, sons, and also grandfathers, maternal uncles, fathers-in-law, grandsons, brothers-in-law, besides other kinsmen.”¹⁰⁵

Thus, he concluded...

“Even though these were to kill me, O slayer of Madhu, I could not wish to kill them – not even for the sake of dominion over the three worlds, how much less for the sake of the earth!”¹⁰⁶

Therefore, Arjuna said...

“Verily, if the sons of Dhrtarastra, weapons in hand, were to slay me, unresisting and unarmed in battle, that would be better for me.”¹⁰⁷

Arjuna, caught in the fields of correspondence, could only assess the situation from the perspective of the truth-values that the fields of correspondence

¹⁰⁵ BG, Chap. I, # 32-34, p 19

¹⁰⁶ Ibid., Chap. I, # 35, p 20

¹⁰⁷ Ibid, Chap. I, # 46, p 25

establish. Thus, to him, the need to fight his 'kin' for dominion over earth seemed pointless, indeed, disastrous for, as Arjuna put it, "[W]hat pleasure indeed could be ours, O Janardhana, from killing these sons of Dhrtarastra? Sin only could take hold of us by the slaying of these felons."¹⁰⁸ It is interesting to note that Krishna does not contradict or contest the Real that Arjuna was appealing to. Indeed, he agrees with him by saying. "Thou hast been mourning for them who should not be mourned for. Yet thou speakest words of wisdom..."¹⁰⁹ Nevertheless, Krishna also insisted on drawing Arjuna's attention to think alongside the Real (quite like how, as we have seen, Laruelle insisted on). Thus, Krishna said, "It is not that I have never existed, nor thou nor these kings. Nor is it that we shall cease to exist in the future."¹¹⁰ Additionally, Krishna also suggests: "Notions of heat and cold, of pain and pleasure are born, O son of Kunti, only of the contact of the sense with their objects. They have a beginning and an end. They are impermanent in their nature. Bear them patiently, O descendent of Bharata."¹¹¹ Arjuna, of course, misses the point that Krishna makes, which is that of the unmanifested – manifested – unmanifested movement that can be said to include the Real (of the fields of correspondences) but which is, crucially, not limited to this Real. Thus, what Krishna urges Arjuna to do is to abandon the limited battlespace projected by and within the fields of correspondence that he resides within and to engage with the wider, more fluid and every changing (to the point

¹⁰⁸ Ibid, Chap. I, # 36, p 20

¹⁰⁹ Ibid, Chap. I, # 11, p 34

¹¹⁰ Ibid.,Chap. II, # 12, p 35.

¹¹¹ Ibid.,Chap. II., # 14, p 36

of seeming still) battlespace of Intensive War, characterized by the movement from the unmanifested to the manifested to the unmanifested.

In NCW terms, the full-spectrum battlespace is posited as being a precondition for the achievement of dominant battlespace knowledge. But this in itself is premised on the understanding that the battlespace is a closed system, which allows for the exercise of dominance therein. The curious thing about this full-spectrum battlespace and the domination thereof is that it is premised on a transcendent location with relation to the battlespace – the so-called God’s eye view of the battlespace. The question to pose to the emerging theories and doctrines of NCW, therefore, would be: How does the ‘battlespace’ of NCW account for the flux of forces?

Clearly, the premise of NCW is to take on only one part of the unmanifested – manifested – unmanifested series. In other words, the NCW theories and doctrines – if we borrow Secretary Rumsfeld’s turn of phrase – are only concerned with making ‘known’ the unknowns. Put in another way, it could be said that the NCW theories and doctrines are concerned with the manifestation of the unmanifested and most importantly, to maintain the manifested as the manifested by exhausting and consigning the manifested into a locale and condition of ‘standing-reserve’. In this way, the propensity of the NCW theories and doctrines is to establish fields of correspondence (which, it will be observed, are critically dependent on an ethic of representation) and to erect – by means of

meshes of networks – closed systems, which are, as D&G advised us in the context of apparatuses, violent, expansive and imperial. It is also interesting to note that the default operational posture of such a martial bearing is ‘to be pre-emptive’. It is for this reason that D&G advised us that apparatuses (State-apparatuses) reach into the milieu of exteriority to capture war and make it its own.

- iii. We have already noted that the only way by which the theories and doctrines of NCW can establish fields of correspondences is by extracting the intensity of force, alternatively, by exhausting the intensity of instant-intensities, and by consigning that what remains to stand-reserve. But this in itself is premised on the possibility to do so. In other words, there is an underlying assumption that not only it is possible to irrevocably exhaust the intensities of forces, but additionally, it is also possible to exhaust the intensity of the forces in and of the onto-force-planes.

The question thus stands as to whether it is indeed possible to (1) account for the infinite number of onto-force-planes and (2) to exhaust the intensity of these planes in perpetuity. From the point of view of the theories and doctrines of NCW, these two issues can only be successfully addressed if, and only if, there is an exact overlap between fields of correspondences and the infinite number of onto-force-planes. If such an overlap can be realized, then it is indeed possible to reduce the infinite onto-force-planes to a discrete and finite singularity (while

accommodating and accounting for diversity in this singularity). Yet there is a problem in positing this and it is this which irrevocably fractures the NCW's concept of operations.

Previously, it was asserted that *Intensity* is the fluctuations (movements) of the immanent relations in and of force. These fluctuations may also be understood as the intensive differences of forces with/in instant-intensities. Thus, when it is said that instant-intensities are always-already in excendence, it also is suggested that the force of excendence is that of difference. It is important to reiterate that this difference is not simply the extrinsic difference that is discernable when forces come in contact with each other. Rather, in the first instance, this difference is intensive, occurring within instant-intensities which, after all, are becoming-particular configurations of force-flows. In other words, instant-intensities while being generative, are simultaneously de-generative, that is to say, re-generative for they are constantly becoming-x. The process that drives this becoming, of course, is excendence and the force of which is difference.

Now, we have stated that when instant-intensities are exhausted of their intensity, the remainder is susceptible to being enframed, which leads to the establishment of fields of correspondence. But this presupposes that while the extraction or exhaustion of intensity is taking place, there is no play of forces that either adds to or subtracts from or re-arranges the distribution of forces in an instant-intensity. In other words, it is suggested that while an instant-intensity is in

the process of being made to stand-reserve, the instant-intensity (with its steadily diminishing intensity) is considered immobile. But, this as we have already seen is not true for, as we have seen, the motive force of instant-intensity is an intensive difference which is always-already at play with/in instant-intensities. In this sense, therefore, instant-intensities cannot be constituents of fields of correspondences which, we should not forget, were stated to be instances of intensities that are standing-reserve. Thus, the NCW project of (1) exhausting instant-intensities and thus, (2) potentially overlapping infinite onto-force-planes with meshes and nets of calculability (which only serve to reduce instant-intensities to mere instances) to enable the establishment of fields of correspondences is ill-fated. This is because the very process of enframing (or as Heidegger would put it, *gestelling*) is subverted by the intensive differences implicit in instant-intensities. Note that this subversion is also the reason why, as we mentioned earlier, assemblages cannot persist, rather they are always forming and de-forming. Thus, as the NCW concept of operations strives to create a total and comprehensive battlespace, its very raw materials serve to subvert the project thereby collapsing the edifice that the theories and doctrines of NCW attempt to erect. It is interesting to note that it is precisely this that serves to de-construct not only the classical theories of war, but also the Clausewitzian theory of war and, as mentioned above, the theories and doctrines of NCW. It is precisely against this subversion that Clausewitz devised his defensive maneuver of the architectonic and the NCW theories and doctrines deploy their meshes and nets of calculability.

Given the above, let us return momentarily to the war that D&G advised us comes from elsewhere in relation to the State apparatus. The State apparatus, in the context of the vision-in-One that we have outlined above, is analogous to a field of correspondence. Now, when D&G tell us that ‘war’ comes from a milieu of exteriority, they are implicitly suggesting that the State apparatus has definite boundaries beyond which this other war resides. Further, D&G advise us that this exteriority is ‘invaded’ by the State apparatus by appropriating the war machine, which D&G tell us is an assemblage. Two issues stand out when we correlate this formulation of D&G’s to the vision-in-One that we have articulated above. First, assemblages in the context of the vision-in-One are unstable. This is because, as we have mentioned above, they are constantly forming and de-forming in keeping with the processes of ex-cendence that are continually operational with/in such assemblages. Thus, to suggest that assemblages are open to capture and a focused redeployment would be to underestimate the nomadism that marks assemblages and the instant-intensities that constitute them. Thus, it is suggested that assemblages continually elude capture. Secondly, and more damagingly, unlike the calcified apparatuses that D&G refer to, the fields of correspondences are also inherently unstable – though they may present us with the illusion (it is this which Krishna alludes to as *maya* in the Gita) that they are prone to be stable and thus capturable.

As we have already seen, even before fields of correspondences can be stabilized, there is a profoundly subversive tacticity that is at play with/ in them.

This is the function of the intensive differences that lend instant-intensities their intensity. Thus, while instant-intensities may seem to be aggregating into fields of correspondences, their disaggregating movement simultaneously serves to deconstruct such fields. Now, it is posited that *Intensive War* is the differential play of infinite intensities of infinite magnitude. Thus, unlike in the case of D&G's war and war machines, which they claim come from elsewhere, *Intensive War* is always-already with/ in. In other words, it is not the case that *Intensive War* is reached into and appropriated like how D&G advise is the case with the 'war' that comes from elsewhere. *Rather, Intensive War, being immanent in itself, is also immanent in any and all formations of instant-intensities, including assemblages and fields of correspondences.*

As the 'line of flight' in and on which this study had begun its journey (de)materializes into and onto other lines of flight, let us return to the original question posed at the start of this study – what if, like the uncircumscribed, war is 'absolutely' immanent, which is to say that not only is it immanent to particular circumscriptions but, more importantly, it is immanent in itself?

It should be evident - even given the brief overview of *Intensive War* that has been presented above - that *Intensive War* operates across a number of registers which, while accounting for the common-parlance understanding of the conflict between nation-states, also is immanent in them. Indeed, *Intensive War*, as described above, can be said to be immanent in and on an infinite number of

registers. It is this ‘vision-in-One’ of war, this study argues, that lurks with/in the more traditional theorizations of war, and includes, indeed is made more discernable, by the emerging theories and doctrines of NCW. Thus, our discussion on *Intensive War*, which we have unfolded alongside not only the traditional theories of war and NCW, but also alongside Krishna’s discussion with Arjuna on the eve of the battle of Kurukshetra, is centered on the multifarious nature of existence and the decrying of a rigid and singular enframing of the world.¹¹² This, as Krishna consistently pointed out in the Gita, is the signature of the ontological condition of war and he exhorted Arjuna to conduct himself accordingly, that is, as a warrior. In this connection, it is important to mention – though we have not addressed it in this study – that Krishna highlighted ‘stillness in action’ as being the mark of the yogi (active man, which is also the mark of the warrior) as opposed to the dull inertia of non-activity of the *tamasic* (inert) individual or even the frenetic activeness of the *rajasic* (passionate) individual.¹¹³ According to Krishna, the essence of action is associated with a constancy which, while optimally remaining impervious to the vagaries of superficial sensory impulses generated by illusory fields of correspondences, is nevertheless creatively informed (overtly or otherwise) by the direct and rhizomatic experience of *Intensive War*, thereby necessitating the need to harmonize with the eternal flux of forces of the universe¹¹⁴ while waging war. In other words, the martial bearing that *Intensive War* evokes necessitates ‘reading’ events by ‘unfolding’ *with* and, more importantly, *as* events, thus appearing to act with lightening speed and with

¹¹² Ibid., Chap. II, #14, 16, pp 36-37

¹¹³ Ibid., Chap. VI, #20-39, pp 374-383

¹¹⁴ Ibid., Chap. XII, #30, p 305

all the necessary and available resources.¹¹⁵ Thus, when considered in the context of *Intensive War*, strategic ensembles like the State or even D&G's war machines fragment into tactical initiatives or what we have thus far referred to as instant-intensities.

Thus, in the last instance, it could be said...

"Om.

That is infinite, and this is infinite. The infinite proceeds from the infinite...taking the infinite of the infinite, it remains as the infinite alone...

Om!

*Shanti! Shanti! Shanti!"*¹¹⁶

This *infinite* is...

Intensive War!

¹¹⁵ For example, see Krishna's advice to Yudhishtira on how to neutralize Dronacharya in *Drona Parva* (Section CXCI) of the Mahabharata. Essentially, Krishna advocated not only the use of 'asymmetric means', (which, in this particular case, is an excellent example of (dis) information warfare) but he also recommended the marshalling and deployment of every resource available. This, curiously, approximates the Blitzkrieg method of war. See William, S. Lind, *Maneuver Warfare Handbook*, Westview Special Studies in Military Affairs, (Boulder: CO: Westview Press Inc., 1985).

¹¹⁶ *Isa Upanishad*, from *The Eight Upanishads* (Vol. 1) with Commentary of Sankaracharya, Trans. Swami Gambhirananda, (Calcutta, India: Advaita Ashrama, 1957) Epigraph

Postscript

On How *Not* to Read this Thesis or,

...onward all you crystal soldiers...¹

This thesis may well have been not written for it is not about something, or some idea, or some event that has either happened or that is about to happen. On the other hand, the inevitability of this thesis was always-already beyond any doubt for, like a self-fulfilling prophecy, its genesis can be diagrammed with/in the motive forces whose fleetingly contingent confluence it attempts to highlight. Thus, this thesis is not, indeed cannot be, a program, or a doctrine, or even a theory of war. Any thesis that attempts to posit or explicate a theory or a doctrine of war should, optimally, be a clear periodisable movement in thought that details how a logical and sequential coming together of constituting factors and events – ranging from the conflictual forces that lend a material consistency to the phenomenon of war, to the assembling of machines of war, and finally of their deployment on the field of battle – takes place. This thesis is decidedly not such a candidate. Thus, to look for such an account or theorization of war, in the context of this thesis, would be an effort in vain. Indeed, as the scattered observations that run wildly through this thesis suggest, the very study of war, particularly in the context of a university setting – civil and military – is itself veering close to an effort in futility. Much of the blame for this – if at all blame can be ascribed for the prevailing state of affairs in the study of war – can be attributed to the

¹ Black Sabbath, “Computer God” from *Dehumanizer*, 1992

philosophy of representation that haunts the annals of western philosophical thought. This, as we have seen, constrained even the singularly brilliant Clausewitz who retreated from the potentiality of losing the phenomenon of war to the vagaries of what he considered to be primordial chance and uncertainty.

We have also seen how the history of military thought (including the NCW theories) has always had a significant sub-text to it. This, among other things, deals with the presence of chance and uncertainty, or more accurately, with the anteriority of chance and uncertainty which, in many instances and in a wide array of forms, has threatened to reduce the painstaking and often ambitious attempts to theorize war into incoherence. Thus, we read the classical theorizations of war (including that of Clausewitz) as evolving and organizing themselves as defensive manoeuvres geared to keep at bay these twin disruptive phenomena. With the emergence of the NCW theories, backed by a proliferating ICT-based dependency structure, it is now becoming possible to read this sub-text with more clarity and, as this thesis argues, from a different stance. In this way, the possibility to recover the hoary vitalism implicit in the concept of war – such as the one that Heraclitus insisted on – now presents itself. Disappointingly, however, as we have seen, the NCW theories themselves remain tainted by their fractured reading and interpretations of Clausewitz within a sedentary framework of reason that gives priority to forms and their representations. Thus, they not only under-estimate the gravity of the Clausewitzian project, they also condemn

themselves, in the final analysis, to being repetitive expositions that discuss the informationalization of war.

The call that issues forth from this thesis is, therefore, a two-fold one. First, it urges an abandonment of the project of theorizing war which, as we have seen, is a project that remains indebted to a peculiar mode of representational philosophy that privileges transcendent figures and ossifies them as icons and strategic ensembles. This is notwithstanding the fact that these iconic strategic ensembles when they do – as they must - come in contact with chance and uncertainty (which only humour us by seeming to be amenable to being captured and restrained by orders of reason) collapse and disintegrate. Thus, secondly, this thesis urges the recognition of the opportunity (but also the challenge) afforded by the emerging ‘new sciences’ on the one hand and the rapidly proliferating ICTs on the other, to effect a transformation in the relations that we share with war. This necessarily involves abandoning the locus of transcendence that we assume when theorizing war-as-such. It also involves experiencing cognitive shifts on our part as we problematize war with varying intensities. In other words, this thesis avoids asking the traditional question of war-studies: what is war? Rather, it asks, how war comes to be? Thus, this two-fold call is that of a siren that signals, to paraphrase Mullarkey’s words, ‘the challenge of renewal and of acknowledging the possibility that art, technology and even matter itself, at the level of its own subject-matter, in its own actuality, might be capable of forcing new (non) philosophical thoughts onto us by implicating us in a contingent and indefinite

process'.² Undoubtedly, it is tempting to understand this as being an activity that may lend us newer insights into what we commonly understand as war. To succumb to this temptation would, however, be unfortunate. It would be unfortunate because not only would we *not* be calling war into question instead, we would be attempting to apply any insights that we gain which, while certainly being novel, would nevertheless be an affirmation of a pivotal anthropocentrism that brands our common-place understanding of war.

No! What is necessary is to jettison this anthropocentrism (or, for that matter, any kind of centering) and to ask again: How is war possible? By posing the question in this way, we are thus able to recover at least the possibility of war being freed from the circumscriptions of the reasonable order of the political and of the thanatological. There is also no mistaking the fact that for us to engage in this kind of thinking we would have to call forth a violence that is simultaneous with thinking-as-such for our mode of thinking will be, if not warlike, at least combative. But this is not the combat between fixed positions; rather, it a fluid condition where the displacements and replacements of concepts in the form of transient tactical initiatives are the order of the day. In this way we will be better able to appreciate the signature of the multiplicity and relativity that afflicts transcendence, which “depends on one’s frame of immanence. And that frame, the place where one takes a stand, is never permanent.”³

² John Mullarkey, *Post-Continental Philosophy: An Outline*, p 193

³ *Ibid.*

What then would be an appropriate way to read this thesis? Perhaps, Nietzsche's words best suggest a possible response...

...It is absolutely unnecessary, and not even desirable, for you to argue in...favour [of this thesis]; on the contrary, a dose of curiosity, as if...looking at an alien plant with ironic distance would strike...as an incomparably more intelligent attitude...⁴

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⁴ Nietzsche, in a letter to Carl Fuchs, July 29, 1888. Quoted as the epigraph in Rudiger Safranski, *Nietzsche: A Philosophical Biography*.

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