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# Behind the Network Paradise: Speculations on Armed Conflict in a Time of Interactive Emergencies

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The conceptual genealogy of network-centric warfare (NCW) can be traced to the path-breaking speculative work done by Soviet military theorists in the 1970s, which was later adopted and modified by leading Western theoreticians and practitioners of war. By the 1980s, we were already talking about the “system of systems” and a “revolution in military affairs”, and by the mid-1990s, the first tentative “speculations on armed conflict in a time of free silicon” were being offered. Against this genealogical backdrop, NCW, as we understand it today, refers to the growing ensemble of...

...military operations enabled by the networking of the force, [which, in turn,] provide[s] it with access to a new, 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.<sup>1</sup>

A close analysis of the current and emergent literature on war and its conduct shows us that there are two distinct lines of thought regarding NCW. For

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the more conservatively inclined, NCW is simply the mode of operability that accompanies the digitisation of the *conduct* of war.<sup>2</sup> 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 information and communication/collaborative technologies (ICTs), this is to say that if they are digitised, the socio-economic-cultural-political context in which these actions take place remains indisputable, axiomatic, immutable, and, therefore, *a priori*.<sup>3</sup> Thus, it is suggested that “[t]here appears a unity to all strategic experiences, regardless of period, polity, or technology,”<sup>4</sup> and as a consequence, it is further asserted that “while the character of war is subject to change, its nature must be, indeed *is*, eternal.”<sup>5</sup> For the conservative theorists, NCW represents merely one such change in the character of war.<sup>6</sup>

In other words, while the more conservative military theorists do not underestimate the “power of the network”, they prefer to view the network as *only* an “enabler” that connects a diverse array of sensors and shooters (i.e., manned and unmanned weapon-platforms) with the objective of collapsing the time and distance that separates the two. To them, NCW is the modern and efficient way by which an armed force can integrate its kinetic forces to deliver a devastating impact on an adversary. Note, however, that the underlying premise of this point of view does not pay attention to, or take into account, the wider operative conditions within which these network-enabled operations unfold. The principal strategic consideration that guides what I have referred to above as the traditionalist approach to NCW is to assume and maintain a measured and balanced posture between “means” and “ends” with the strict injunction that the strategic objectives or “ends” will always take precedence over the “means”.<sup>7</sup> It is for this reason that the conservative theorists view NCW in purely instrumental and technicist terms. To them, NCW is nothing more than a “means” to achieve and secure a strategic objective or end. In the process, however, I contend that this (traditionalist) perspective of NCW disregards (or, does not pay enough attention to) the import of what Manuel Castells refers to as the “rise of network societies” in the 21<sup>st</sup> century.

There is no denying the fact that increasingly “we live in confusing times” because “the intellectual categories that we use to understand what happens around us have been coined in different circumstances, and can hardly grasp what is new by referring to the past.”<sup>8</sup> As Castells, through his patient and painstaking research points out, “Around the end of the second millennium of the common era, a number of major social, technological, economic, and

cultural transformations came together to give rise to a new form of society, the network society...”<sup>9</sup> Gesturing to these emergent conditions, the second strain of thought regarding NCW which is, in many ways, a more radical one, asserts that

...[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...<sup>10</sup>

Thus,

...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 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.<sup>11</sup>

It is against this backdrop that these radical theorists of war and combat suggest that it is increasingly becoming necessary to “unfetter [ourselves] from the requirement to be synchronous in time and space...”<sup>12</sup> 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 time when our analysis methods are becoming less and less able to shed light on the choices we face.”<sup>13</sup> Indeed, they assert that there is an urgent need to abandon the paradigm in which “...we still persist in studying a type of warfare that no longer exists and that we shall never fight again.”<sup>14</sup> Going even further, some theorists like Szafranski—when discussing war and its conduct in the Age of Information—call for different ‘modes of response’ to what he suggests are the emerging ‘epistemological challenges’ that modern-day governments and societies have to contend with.<sup>15</sup>

Given this state of affairs, therefore, as the plans to transform the Indian armed forces into a net-centric ensemble mature, there is also an urgent and growing need – at a higher register of analysis – to resolve the conceptual (and, in this specific sense, strategic) dilemma that these two starkly different lines of thought about war and combat in the 21<sup>st</sup> century pose to us. At the heart of the matter lies one fundamental question: how to cognise (or, read) the emergent conditions within which such a network-enabled Indian military force is expected to operate?

While at first glance, this question may appear easy enough to address, however, a closer examination suggests that its apparent simplicity is deceptive. Consider, for example, the following:

Between 1950 and 1980, the number of instructions per second that a dollar could buy [has] doubled every three years; since 1980, the number has doubled every sixteen to twenty months. In the first few years of the 1990s, the pace has, if anything, accelerated. [While] [s]ome slowdown is inevitable, but even at the 1980s rate, a thousandfold improvement can be expected in sixteen years; at earlier rates, a leisurely thirty years. *[Thus, by] the time this acceleration runs its course, life and war will have changed radically.*<sup>16</sup>

Libicki is not the only one to point out that, as the Age of Information progresses, “life and war will change radically”. Even the former US Secretary of Defence, Donald Rumsfeld, had asserted that “[w]e 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.*”<sup>17</sup>

While it is relatively easier to relate to the conceptual premise of the traditional account of NCW, it is necessary to pause and reflect on what precisely theorists and practitioners of war like Libicki, Rumsfeld, and the other radical theorists of NCW are urging us to do! What do they mean when they say that as we become more firmly ensconced within the Age of Information, “life and war will change radically”? Why are we being asked to change *how we think about war*? Indeed, how can we think about war differently?

In the second decade of the 21<sup>st</sup> century, it would appear somewhat trite to simply say that we live in the Information Age. Perhaps it is more appropriate to say that we are finding ourselves in what I refer to as an Age of Interactive Emergencies. What are interactive emergencies? Simply put, in the Information

Age, given the increasingly immersive network of relations – material and non-material – that we find ourselves within, an emergency – any emergency—being confronted by any state, group, institution, collective, individual, etc., spreads virally and becomes a concern for everyone (albeit in their own specific ways). This gives rise to what Antoine Bousquet refers to as “chaoplectic” conditions<sup>18</sup> – conditions that veer at the edge of chaos and complexity and which, in turn, contribute to the exponential growth of what Donald Rumsfeld quixotically referred to as “the unknown unknowns.” It is my contention that this is the fundamental conceptual premise from which the more radical and extreme theorists of war and combat theorise about NCW.

To them, NCW includes, but is not limited to, the hard or soft links that establish networks between the soldier, the sensor, and the weapon-platform. Instead, the network is, to use a technical-philosophical term, the “conditions of possibility” that determine the nature of war and combat in the 21<sup>st</sup> century. This brings in its wake the logical imperative to review, in the first instance, what it means to be at war, and how this war may be waged. Wars, these radical theorists assert, are gradually moving away from being purely state-centric phenomena. Thus, while not completely ruling out the possibility of inter-state wars, these theorists point out that increasingly wars will be small, inter-connected (thus, simultaneous), and many. Under these conditions, simply informationalising the armed forces is not enough.

Intimately connected to this is the nature of the “emergent adversary” of the Age of Interactive Emergencies. Given the base conditions – that of chaoplexy and where the proportion of the “unknown unknowns” is growing exponentially – the “emergent adversary” will – or so it is speculated – take an increasingly amorphous form. This lack of a strategic structure of the enemy poses, if nothing else, an operational problem for the stove-piped, albeit informationalised, organisational structure of the armed forces. But there is another aspect to this which complicates matters further. Not only is the “emergent enemy” amorphous, it also displays (or, is expected to increasingly display) a propensity to weaponise the terrain on which it wages war. It is important to recognise that this “terrain” is not the conventional geo-spatial terrain that we are more familiar with. Peculiarly, this terrain is both the space where newer forms of war will be waged and the space from which the “emergent adversary” originates. A corollary to this is that this terrain also serves as a space where the “emergent adversary” finds sanctuaries to which it withdraws only to launch a more devastating series of attacks at opportune moments. In such ‘martial valhallas’ – increasingly underwritten by highly advanced, but relatively

easy to access, computing, communication, and collaborative technologies—the traditional indicators of ‘speed’, ‘time’, and ‘identity’ will most likely 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. Thus, in the Wars of the Small and the Many, the ‘hunter’ and the ‘hunted’, the ‘here’ and the ‘there’ and, the ‘actual’ and the ‘virtual’ will be experienced and projected as complex (and confusing) phenomena which are always on the verge of becoming *indistinguishable* from one another.<sup>19</sup>

The “emergent adversary” also displays two characteristics – “asymmetry” and “asynchronicity” —that are, or should be, of interest to theorists and strategists of war and combat in the 21<sup>st</sup> century. It is necessary to clarify that these two characteristics, by themselves, are not essentially new to armed forces around the world. As Clausewitz explained in *On War*, the problems of asymmetry and asynchronicity were, and will remain, endemic to the battlefields of the past, present and future. He referred to this as the “fog and friction” of war.<sup>20</sup> The critical difference, however, lies in the propensity of the “emergent adversary” to weaponise these two characteristics and to employ them in a form and manner that will threaten to subvert the somatic integrity of the traditionally organised armed forces. In other words, for the traditionally organised armed forces, albeit liberally upgraded with the most advanced ICTs and weapons-related technologies, it will no longer be enough to simply contend with asymmetric and asynchronous conditions within the battlespace in the classical Clausewitzian sense. They will also have to devise ways and means by which to contend with these two phenomena which, in the context of the “emergent adversary” of the 21<sup>st</sup> century, are nothing less than extreme examples of innovative weaponisation that are specifically designed to introduce chaoplexic conditions within the structure of the armed forces, thereby destabilising them. For the Indian armed forces – indeed for any formalised fighting force – this is a particularly debilitating state of affairs.

Based on this, we can, therefore, be fairly certain that emergent forms of war will be characterised by “many”, “small”, and most likely, “simultaneous” violent interactions, which will spread virally; they will increasingly afford— particularly for the structured fighting formations of the nation-state—shorter lead-times within which to act; they will demand that the hierarchically organised armed forces respond – across the spectrum of possibilities—with lightning speed, and display a robust degree of flexibility and resilience when facing the “emergent adversary”. It is significant to note that despite the introduction and operationalisation of advanced ICTs and weapons-technologies, militaries globally remain woefully underprepared to address conditions and threats like these.

The question, therefore, boils down to this: what will be the perspective that Indian strategists and defence planners will adopt as they deliberate on transforming the Indian armed forces into a network-enabled battle-worthy force? Will they adopt the more traditionalist approach that views net-centricity as simply an enabler to fight wars whose templates were designed for the Industrial Age, or, will they take the radical step to transform their cognitive framework which will allow them to recognise the critical features of the emergent battlespaces and adversaries of the 21<sup>st</sup> century, thereby enabling them to redesign the transformation of (military) force with peculiarly Indian characteristics?

## Notes

1. 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.
2. David Lonsdale, *The Nature of War in the Information Age* (London: Frank Cass, 2006), p. 232.
3. *Ibid.*, pp. 40-43.
4. Colin S. Gray, *Modern Strategy* (Oxford: OUP, 1999), p. 8.
5. 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.
6. 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: University Of Nebraska Press, 1990).
7. The questions of "ends" and "means" is a patently Clausewitzian postulation. See Carl von Clausewitz, *On War*, edited and translated by Michael Howard and Peter Paret (Princeton: Princeton University Press, 1989), p. 143.
8. Manuel Castells, *The Rise of the Network Society*, 2<sup>nd</sup> Edition, Vol. I (London: John Wiley & Sons, 2010), p. xvii.
9. *Ibid.*
10. Arquilla and Ronfeldt, "The Advent of Netwar (Revisited)" in *Networks and Netwars*, (Santa Monica, CA: RAND, 2001), pp. 1-2.
11. Arquilla and 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), p. 3. Parenthesis in original.
12. 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 and Sylvere Lotringer, *Pure War*, Trans. M. Polizzotti (New York: Semiotext(e), 1997). See also *Power to the Edge*, p. xiii.
13. 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*, October 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 sets rules 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](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 (my emphasis).
  14. Attributed to Roger Trinquier, *Modern Warfare* (1961), quoted in Robert L. Leonard, *The Principles of War for the Information Age* (New York: Presido Press, 1998), p. 1. See also Alberts, Gartska, Stein, *Network Centric Warfare – Developing and Leveraging Information Superiority* (Washington, DC: US DoD, CCRP, 2003), p.1; Edward A. Smith, *Effects-based Operations – Applying Network-Centric Warfare in Peace, Crisis, and War*, (Washington, DC: US DoD, CCRP, 2003), p. xiii.
  15. Mentioned in Arquilla and Ronfeldt, n. 10, p. 14.
  16. Martin Libicki, *The Mesh and the Net: Speculations on Armed Conflict in a Time of Free Silicon*, Institute for National Strategic Studies, (Washington, DC: National Defense University, August 1995), p. 3 (my emphasis).
  17. Donald Rumsfeld, "Transforming the Military," *Foreign Affairs*, Vol. 81, No. 3, May/June 2002, p. 29; *Elements of Defense Transformation*, Office of Primary Responsibility, Director, Office of Force Transformation, Office of the Secretary of Defense, Washington, DC, 2004.
  18. Antoine Bousquet, *The Scientific Way of Warfare: Order and Chaos on the Battlefields of Modernity* (London, UK: Hurst Publishers, 2009), see Chap. 7.
  19. 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 21<sup>st</sup> 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).
  20. Clausewitz, n. 7, pp. 119-121.