

The “Convergence” and Non-Terrestrial War

By

Colonel (Retired) Stefan J. Banach

“The unprecedented is necessarily unrecognizable. When we encounter something unprecedented, we automatically interpret it through the lenses of familiar categories, and thereby render invisible, that which is unprecedented.”

- Zuboff: The Age of Surveillance Capitalism

The United States, and indeed all nations, are engaged in a global Non-Terrestrial War that has not been framed or named. Non-Terrestrial War is an unconstrained strategic form of maneuver that is dividing people and disrupting cultures, around the world in a historic manner. This unprecedented non-physical approach to war produces invisible affects that are not known to the targeted entity initially, and potentially will go unnoticed for months and even years. We have witnessed instances of this new type of war against US government agencies during hacks of the Office of Personnel Management. These types of attacks also occurred in corporate America involving Solar Winds and the Colonial Pipeline, and through the use of non-kinetic relational dialectic strategies which leverage the “Convergence” to divide populations along political lines, etc. Semiotic exploitation maneuvers have further attacked the signs and symbols of nation-states around the world, to sow discord among the various races, genders, religions, and economic classes in a given society. Nation state and non-nation state entities have adopted and weaponized a new body of theory to indirectly attack the West, and specifically the United States, using non-visible instruments of war. Whereby war is not perceived as war, by the victim. All of this is intentional and represents a clear and present danger to the United States, if it is left unchecked.

The precis of the US Army’s multi-domain operations (MDO) concepts present a technical solution to a complex adaptive system of problems, which have not been fully framed and named. The current MDO concepts are a good start, but do not capture the order of magnitude threats that are confronting the US and the world today. Expanding the cognitive aperture to frame and name the unprecedented Non-Terrestrial War phenomena would be a positive step towards maintaining a competitive advantage in the global security milieu.

The US Army, the Department of Defense (DOD), and the US government writ large are struggling to see this new war through a new lens. Historically, the “Great Captains of War” have routinely missed the new war. We saw this happen with the French in 1940, the US Military in 2003 in Iraq, and we are seeing it happen now. The 9/11 Commission Report’s significant finding was, “The most important failure was the lack of imagination.”



In times of exponential change, one must change exponentially. Expanding the operational art and competitive space is critical. Imagining new forms of war, and seeing the patterns for the weaponization of new technologies against cultures, and armies in novel ways, is a critical leadership requirement.

This paper presents insights into the nature of this new form of war. It also proposes a method for the development of a strategy, to counter the unparalleled Non-Terrestrial threats that are manifested in a new battlespace. Non-Terrestrial War is a byproduct of the “Convergence” which is the evolution and the converging of: technology, education, economic, finance, social, governance, and other foundational cultural systems. The “Convergence” has produced a profound reality that is opaque to many human beings born over the past 35 years in their respective nation-states. Many of us were born in the United States, and therefore were granted US citizenship. We were unapologetically Americans and US Citizens. The inertia and power of the “Convergence” has transformed all connected “Citizens” into a new species: the “Netizen.” Millions of human beings today, have unwittingly become “Netizens,” through the use of: algorithmic warfare, attention distraction techniques, pervasive change technologies, constant surveillance, coercion, deception, and by the theft and commodification of personal behavioral data, by nation-state and non-nation state actors.

This transformation is explained by Paul Virilio who opined that, “Every new technology carries its own negativity, which is invented at the same time as the technical progress.” For example, when the train was invented, the train wreck was also created. When the airplane was invented, the plane crash was also created, etc. That is the case for the “Convergence” of technologies, which were created and used across an array of systems throughout the four industrial revolutions, since 1765. When we created the World Wide Web (WWW), and the new palette of technologies that we have at our finger tips today, we also weaponized the global learning system, invented Non-Terrestrial War, and conceived the new “Netizen” life form.

The “Convergence” also ushered in a Revolution in Human Affairs, where Soldiers and Civilians are now both combatants in Non-Terrestrial War. We saw this recently with Elon Musk maneuvering satellites over the Ukraine, a sovereign nation state, who was engaged in war with Russia, a nuclear capable nation-state. The group Anonymous attacked the Russian communication systems, and “Hacktivists” attacked the Belarus train station in an attempt to slow the Russian deployment of its forces prior to the start of the Ukraine War, on 24 February 2022. How will the US military address future attacks of this nature, in the next Terrestrial War that it undertakes? Leadership should also consider the Law of Land Warfare corollary for Non-Terrestrial War. Our homes, offices, and all places in between, are now Non-Terrestrial War battlefields. The principal Non-Terrestrial weapon systems are carried in our hands, on our wrists, or sit on our desks. US leaders should imagine a “new front” that draws its power from the decisive Non-Terrestrial terrain.

The learning system is the weapon system. A military’s learning system, for time immemorial, has been the primary and most important weapon system in war. Learning faster than our adversaries is critical. Controlling what our adversaries learn, when they learn it, and how they

learn it is now possible and can lead to the perception of a multi-reality environment. That is what we are witnessing today. The activity of Non-Terrestrial War is the weaponization of the “Convergence” – the global learning system. The global learning system is the aggregation of a multitude of capabilities that people use every day to communicate, live, prosper, and to wage war. The principal objective of Non-Terrestrial War is to deny the productive range of learning to a given adversary or culture.

The global learning system has been weaponized with the advent of the: WWW, cyber, social media, artificial intelligence, machine learning, robotics, nanotechnologies, electronic warfare, signals intelligence, space operations, behavioral science, bio-medical developments, attention distraction heuristics, and pervasive change technologies. Going forward this group of technology capabilities will be referred to as “The Technology Palette.”

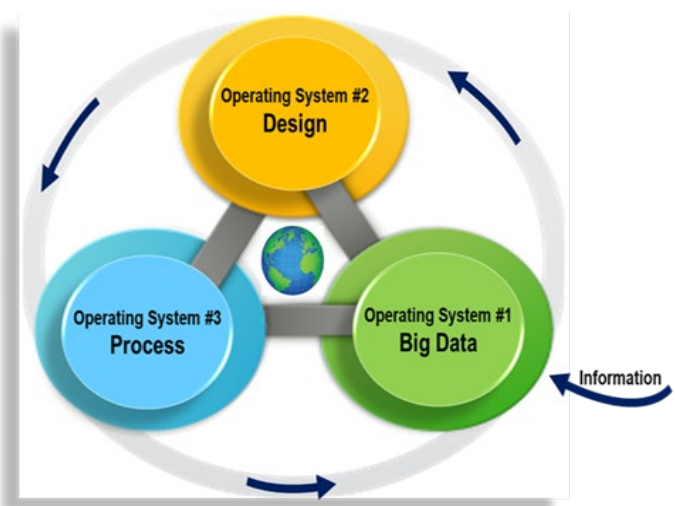
DOD and Joint Force learning system growth and alignment are critical to achieving success on current and future battlefields. The DOD and the Joint Force currently use a Process Operating System, as the foundation for learning, and in an attempt to maintain, and sustain a competitive advantage.

Theoretically, and practically, this is unsustainable as “processes” are not created for complex adaptive problem situations, which is the problem typology that is most prevalent and most dangerous today.

“Process” is optimized for technical problem solving and management. The Process

Operating System represents only 33% of the learning system capability that is required to win a war today. In other words, the DOD and the Joint Force lack 67% of the operating system capabilities, which are required to drive the learning that is necessary to win the Nation’s wars. The DOD and the Joint Force requires a Big Data Operating System and a Design Operating System culture, in conjunction with a new Process Operating System, to remain ready and relevant. The Big Data, Design, and Process operating systems are critical to creating a relevant DOD learning system, and in realizing a decision-making advantage.

The need for big data enabled decision-making capabilities and autonomous leadership has never been greater within the DOD. The longstanding hierarchical learning system and its attendant decision-making zeitgeist is collapsing before our eyes, given exponential technological change. Developing a leadership acumen in the US Army which is capable of leading adaptive work and learning across enterprise boundaries is critically important, in terms of mapping the “Convergence,” and naming and framing Non-Terrestrial War. The US military requires the three operating systems noted above, and new Non-Terrestrial principles of war and warfighting functions, to ensure survivability on a battlefield now and in the future.



Similarly, the ability to gain strength from disorder is a leadership imperative, as we move from a big data paradigm to a quantum sensing, communication, encryption, decryption, and computing reality in the 2030s. When realized, these technological advancements will fundamentally change every aspect of our lives. Is the US military prepared for the systemic shock that will accompany the radical change in technological power, and a quantum world order which could be upon us in 10-20 years? The realpolitik of the United States and the West writ large, would do well to embrace this looming reality now by making the required investments to secure our future.

Non-Terrestrial war is low cost in terms of human life and funding. It can be fought, and won, at pennies on the dollar. Non-Terrestrial War also produces multiplicative strategic effects, at exponential virtual speed, and can create enduring systemic shock across continents as we have seen with the recent coup d'états on the African continent. Ubiquitous global reach, unrelenting virtual munitions by way of IT robot (BOT) Armies, and decentralized invisible indirect attacks underpin Non-Terrestrial War. Controlling information efficacy, inertia, speed, volume, and achieving time-space compression, are new elements of the operational art that degrade adversary cognition and decision space. Algorithmic warfare, attention distraction heuristics, pervasive change technologies, relational dialectics, and semiotic exploitation campaigns divide cultures. This leaves the deceived "Netizens" in a state of liminality – a condition of disequilibrium where the "elites" are in crisis and the rest of the population retreats, quits, and enters into work avoidance.

Every "Netizen," Joint Force Service Member, and US warfighting system are engaged in an unrelenting Non-Terrestrial war that leverages all connected segments of technology for exploitation. Each of these aforementioned entities, require synthetic immunity akin to the three levels of biological immunity. For example, Synthetic Innate Immunity is a universal baseline capability that all individuals receive. Synthetic Adaptive Immunity is a set of capabilities that are drawn from a host entity such as an employer or the US Military. Synthetic Borrowed Immunity packages are protective technologies that are tailored to a specific threat capability or region. These synthetic enhancements are required to protect every connected human being and machine in Non-Terrestrial Battlespace. All technologically entangled instruments emit a multitude of Virtual Avatars, which telegraph locations and behavior data patterns that are manipulated in every way imaginable for a private sector advantage, and to eliminate Service Members and US warfighting systems. Multiple levels of synthetic immunity are required to cloak a growing number of "Virtual Avatars" that compromise the Netizen and the Service Members' location, and activities in Non-Terrestrial battlespace.

To that end, our Service Members cannot think as fast as the machines which are targeting them today. The threat environment has changed. Technology has changed significantly. But the human brain has not changed enough, nor has it been enhanced to address the increased cognitive demands inherent in Non-Terrestrial War. Decision-making at the individual level will require synthetic assistance to ensure survivability on a current battlefield. In the future, the fusion of biological and machine intelligence will absolutely be required to sustain human life on a Terrestrial Battlefield. Left unchecked, this Non-Terrestrial battlespace problem will

increase in complexity and will lead to survivability being measured in minutes and seconds while engaged in physical combat, for both man and machine.

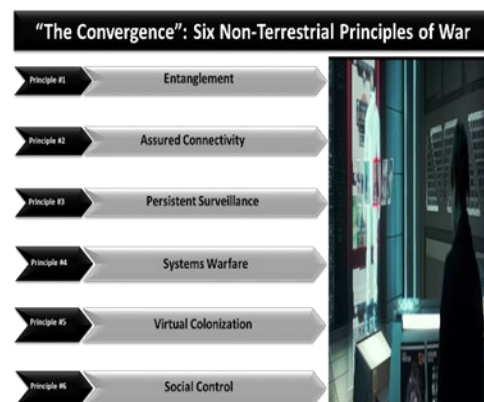
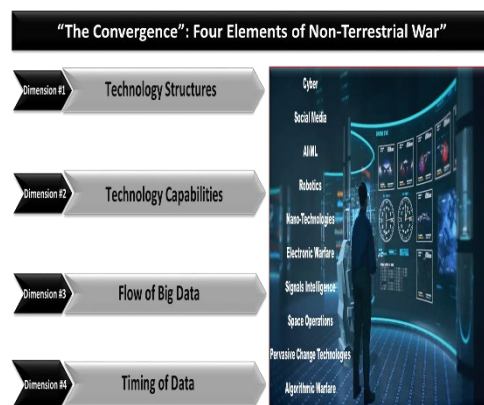
The Non-Terrestrial War phenomena is far more powerful than the four Terrestrial Revolution in Military Affairs (RMA) combined effects, which have occurred over the past 123 years. Non-Terrestrial War consists of 20 forms of warfare which are not physical in nature. Virtual Warfare, Cognitive Warfare, Information Warfare, Psychological Warfare, Cyber Warfare, China's "Lawfare," Irregular Warfare, Political Warfare, Economic Warfare, Culture Warfare, Social Warfare, Digital Warfare, Space Warfare, Systems Warfare, Hybrid Warfare, Hyper Warfare, Gray Zone Warfare, Electronic Warfare, Multi-Reality Warfare, and Quantum Warfare underpin the activities inherent in Non-Terrestrial War. None of the twenty forms of warfare can be dismissed, as they are all valid threats to the American way of war and our way of life. All twenty of these forms of warfare present the US Army, and our republic, with a complex system of problems that require adaptive work. This arrangement of systems highlights the need to address technical problem-solving processes and technical work. It also requires the development of a complex adaptive problem solving culture, new mental models, and the development of an adaptive work acumen across Army, Joint Service, and Inter-agency boundaries—to synthesize these forms of warfare and the attendant technologies into a new strategic form of maneuver that can win wars now, and in the future.

This adaptive work could begin with the recognition of the Four Elements of Non-Terrestrial War which are the backbone for Six Non-Terrestrial Principles of War, and five Non-Terrestrial Warfighting Functions that are the means to surveil, exploit and realize profit, positional advantage, and social control of populations and cultures.

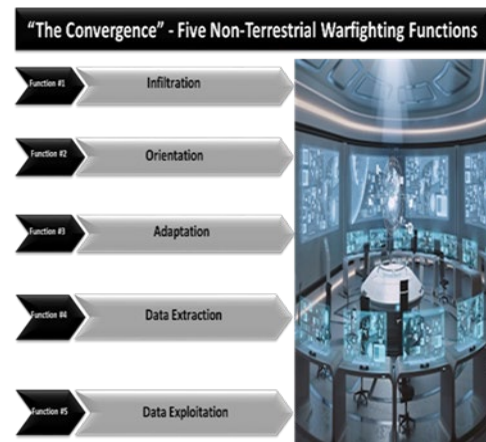
Technological structures, technological capabilities, the enduring flow of data, and the timing of data on a global scale are the four elements of Non-Terrestrial War.

These entities form the backbone of the "Convergence" – the global learning system that includes our technology, education, economic, social, finance, governance, and a multitude of other systems that are in use today.

Non-Terrestrial War is underpinned by six new principles of war that include the global entanglement of all the systems that are used today. The entanglement phenomenon enables assured connectivity with the global commons. This sets the conditions for persistent surveillance of all Netizens and pervasive systems warfare on a global-scale. Virtual colonization and social control are the final two principles which bolster Non-Terrestrial War.



Five Non-Terrestrial Warfighting Functions enable this form of warfare and include infiltration of individual, organizational, or nation-state systems. After the system infiltration is complete, there is an orientation period in a “Perch” posture. After the orientation, the threat actor then adapts to what the compromised system presents and then proceeds with data extraction and data exploitation for continued surveillance, profit, or positional advantage in the global commercial market place or in the security environment.



Non-Terrestrial War goes well beyond the boundaries of the US Army and the DOD, and the adversaries to the United States know that. Currently, nation-state and non-nation-state threats to the US have kept the world’s most powerful military off the Non-Terrestrial Battlefield, given “Lawfare” – which presents conflict with US laws, authorities, and regulations.

There is a need to create the corollary to the Manhattan Project. Establishing a Manhattan Project 2.0 would set the conditions to conduct the adaptive work required to solve this complex challenge. Forming an inclusive Whole of Nation Design Team that is capable synthesizing the 20 forms of Non-Terrestrial Warfare, and the aforementioned *Technology Palette* that underpin Non-Terrestrial, is vital. The US military masterfully synthesized the Infantry, Armor, Artillery, Intelligence, Air Defense, Engineer, and Command & Control Systems into an unmatched Terrestrial Combined Arms Maneuver construct in the 20th Century. The United States needs to do the same for Non-Terrestrial War using the *Technology Palette*. The logic, form, functions, and culture for a new strategic way of war that cuts across existing barriers today will be radically different than any archetypes used in the past, or at the moment. This would be an essential step in the right direction, to create a new strategic form of maneuver that could win the Nation’s wars and ensure the preservation of our republic.

Redefining “Winning” for the American way of war is critical. This can be done by codifying Limits of Tolerance within specific Zones of Acceptability over time, while engaged in Non-Terrestrial War. Activities which occur in Non-Terrestrial Battle Space that, in turn, necessitate reprisal in Terrestrial Battle Space, with a kinetic response, requires further clarification for the American people. The inability of the US government to strategically communicate these Non-Terrestrial Battle Space thresholds, and why they exist, to US citizens due to national security reasons is eroding the will of the American people and the ability to mobilize an increasingly compromised US national industrial base. This is the end game of a Non-Terrestrial War strategy. Sun Tzu’s idiom, “The supreme art of war is to subdue the enemy without fighting,” is now possible by way of Non-Terrestrial War.