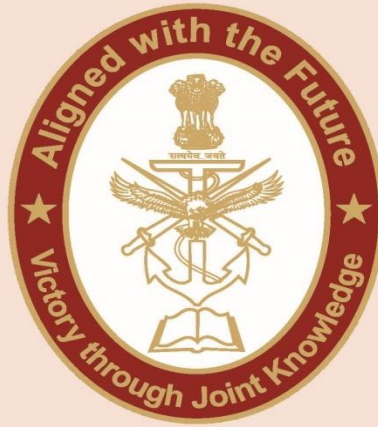


CENTRE FOR JOINT WARFARE STUDIES



CENJOWS

**UNCONVENTIONAL
WARFARE –
RELEVANCE IS ALL
SEASON!**



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The -Russo-Ukraine Conflict has triggered the debate that the days of conventional war are back and speculations of war extending beyond Ukraine are rife. However, the unconventional threat is all season and backed by technology, continues to remain an all weather threat in being. The Havana Syndrome faced by US Army, CIA and diplomats is yet another form of an unconventional war in the electromagnetic spectrum.

The Russo-Ukraine Conflict is running into 127 days as I pen this article !There are speculations on the end state wherein there is a narrative that Russia may extend the war to the neonatal NATO alliances and the end state is This conflict has opened the debate on whether, or not, the days of conventional war are rife. Be that as it may, after decades the world is witnessing told and untold stories and time will stand testimony that Nations can ill afford these longdrawn wars because they cripple societies physically and psychologically, destroy infrastructure, adversely affect economy, take Nations back by decades and rebuilding is a Herculean task.In contrast, unconventional wars are quick impact and more localized. That is not to say that unconventional wars are better but by design conventional wars are a huge drain on National economy and severely retard National progression and development.

Warfare, conventional or otherwise, has been a manifestation of human mind supported by technology. It is the science and art of merging the thought with innovation. An apt example is the guile and tact depicted in *The Day of The Jackal*, a political thriller, on how a hired killer 'Jackal' used tact to assassinate the French President. In recent times, militancy, terrorism and insurgency which condition the mind and radicalize humans in masses have been observed as a global phenomenon to keep warfare below conventional thresholds into a low intensity conflict. Targeting strategic leaders, strategic installations, critical National infrastructure, natural resources – water, energy, oil are examples of how Nations engage above coercive diplomacy but below a conventional military conflict in what comprises the sub-conventional space. In the sub conventional space, the war is unconventional by the character, in that there are specific agendas, the physical target area is limited and the resources deployed for effect are calibrated based on the desired effect.

The new world order is all about VUCAD – volatility, uncertainty, complexity, ambiguity and disruption. This conundrum has given rise to Hybrid warfare, which has been a buzz word for sometime. It is a term which covers all the actions and activities undertaken by Nations to target other Nations by multi modes to include limited physical impact, psychological, informational, economic and technological, some or all, to cause dissuasion, deterrence or subjugation. Technology and innovation have been the key enablers and are designated as the new oil in the economy driven world. It is the invisible component of the hybrid warfare which has the contours characterized as a war by other means and Nations have not yet found an antidote except an eye for an eye type of reaction. Cyber threat, Pegasus attacks and misuse of social media platforms are examples that have rocked the world enough and today are breaking news, have short term impact and reverberations, target the minds of the powers that be and psychologically affect the common man.

The unconventional warfare space is being disrupted at an unprecedented pace driven by the digital transformation. With inimical borders in the North and West and their collusivity as a two front threat, let us look at some

plausible unconventional threat scenarios – these are acts of war but do have acceptable thresholds of not triggering one.

In Outer Space – a new form of warfare is under curation where anti satellite weapons in the electromagnetic spectrum, including lasers can cause irreparable damage or temporary disruption to satellites at a time of choosing.

In the Cyber Space, offensive cyber to degrade command and control centres, key military and civil installations, principal ministries, key functionaries, commanders etc at a time and space of choosing. As an example, Shadows in the Cloud was the cyber-attack on strategic Indian assets including military institutions by China which demonstrated the new paradigm of their cyber powers and emerging threat matrix.

In Information & Communication Technology domain, dark data, information and its manipulation will remain one of the biggest threat. Rumours have always created breach of trust, and timed correctly and proliferated intelligently among target audience, these can cause havoc in elections and military operations alike. Recently, the arrest of Pfizer Vice President on social media created enough ripples both to those elderly who were vaccinated and those youngsters who would desist. It is a mind game and perhaps the most gullible target. Pulverizing social media platform tirelessly with misinformation results in white lies being touted as facts – a dangerous phenomenon. This is disastrous in war but as damaging in peace time.

Internet of things and sensor technology controlled by microchips has been the paradigm of life for sometime. There is a huge transition from automation driven by business intelligence (BI) to autonomy where both BI and AI are making huge forays. In a hugely connected space with electronics systems be it sensors, communication systems or microchips, an unconventional threat can create major disasters. Nuclear powered systems, chemical factories are one example where a deliberate malfunction can cripple infrastructures, installations and adversely affect human life.

To that extent, intelligent use of the electromagnetic spectrum create unconventional weapons. Directed energy weapons, DEWs, be they microwave, laser or acoustic based systems, have been in vogue. These are again invisible weapons but their effects are fairly damaging. That said, one facet of this invisible war is the Havana Syndrome. Havana Syndrome, which started in Cuba in 2016, has been in news for a good reason. It is a terrible example what humans have done for mankind. Though largely unexplained, the causes are an intricate combination of impact of microwave, laser technology and electromagnetic spectrum on human mind. Doctors, scientists, technologists, intelligence agencies and Government agencies have been intrigued by a sudden spurt in mysterious illness of American diplomats, soldiers, CIA officials and their families afflicted globally over the past five years. Some individuals experience screeching metal sound, some a humming noise, some heat and an instantaneous increase of mental pressure resulting in intense headache or body pain or sudden loss of energy, fatigue syndromes or lack of orientation or a combination. No amount of measures including blocking the ears help in reducing the sound effect. These DEWs can remotely trigger major fires with laser and major devastation of electronics systems with microwave called electromagnetic pulse – a promising emerging transformational technology.

Unmanned Autonomous Systems are yet another means of triggering unconventional threats. Aerial swarms, unmanned ground vehicles, robots, unmanned ships and unmanned underwater submarines with kamikaze missions, surveillance missions, electronics warfare missions are the next level of unconventional threats on the horizon. Imagine a swarm based on ground, at sea and in the air attempting myriad of targets or a combination of targets. Who hit will remain shrouded in a mystery since non state actors is also a global reality. The killer would have self destroyed leaving no traces for a tangible inquiry. These systems can be deployed for surveillance and round the clock situational awareness. This and many more scenarios are driven by the human intent or artificial intelligence and technology! Obviously, sky is not the limit. Armenia- Azerbaijan and Ukraine Russian Conflict are examples of the adverse fall outs of these

unconventional weapons in the conventional space. The RD Parade 2021 saw this spectacle.

COVID has been yet another black swan event which has demonstrated the devastating uncontrolled perennial global impact of a biological weapon.

Unconventional weapons are the boon & bane of technology and innovation. It is an unequal fight - human with unmanned systems in an inhuman assault. The moot question is – how do we manage the unconventional warfare space? What should be the strategies to ward off unconventional threats? As a design thinking professional, one would look at a user centric approach. Technology solutions need to be researched, designed and developed to ward off threats. Electromagnetic (EM) detectors and EM proof suits need to be developed for individual personal protection. Detection and jamming devices for unmanned systems and means for neutralizing the threats by kinetic and non kinetic means need to be developed, deployed and proliferated. Information and Communication based command and control Intelligent systems need to be developed and deployed around critical assets, including human, for defence in depth against cybertronics (cyber and electronics) and other forms of unconventional threats. These systems will sense, detect, warn and destroy threats before they become effective. Ballistic Missile Defence is one such umbrella which has been under design and development for denying access to critical assets.

Aatmanirbhar Bharat and MII is a great strategic intent. In the backdrop of a strong technology base provided by ISRO, DRDO, Technology and Innovation Centres of industries & PSUs, Start ups and T Hubs, the time is ripe to strengthen through a well thought through National technology strategy for Technology sovereignty. To achieve the above there is a dire need to restructure a single window Technology Organisation to carry out effective technology forecasting and development through R & D agencies including DRDO and a focused public-private partnership in our march towards Aatmanirbharta.

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