War: Yesterday, Today and Tomorrow

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Abstract

War has been an inalienable part of statecraft. However, its shapes and contours have been continuously evolving. From primitive bows and arrows to weapons of mass destruction, war has come a long way. A revolution in military affairs was unleashed a few decades ago with path breaking advancement in technologies and included interesting dimensions such as information warfare. This gave unparalleled advantage to advanced military powers as evident in the First Gulf war. Such advances are sought to be offset by circumventing strength by waging war through unconventional means. The emerging mean is 'Grey Zone' war. Application of grey zone war is likely to have a bearing on the very fundamentals of warfare. This article is an attempt to delve into the advancements in military relevant technology and juxtapose it with the way war is presently planned to be fought.

Introduction

War causes destruction and misery is a universally accepted fact, yet, ironically, it is also an inalienable part of statecraft. With that kind of indubitable and indisputable permanence, it is only the nature of war that keeps changing while its relevance remains intact. A change which is assuming increasing salience is 'Grey Zone' war. As per one definition, grey zone war encompasses, "Actions that do not quite fall under the clear definitions of 'War' by lesser levels of aggressions[… they are] not

to be confused with traditional methods of 'low intensity' conflicts between two opposing nation-states, grey zone conflicts are undeclared acts of international conflict that operate with an ambiguous approach[…] grey zone conflicts have numerous methods of approach, including cyber-attacks, occupation of land, use of biological and chemical agents, small scale terrorism and hostage situations".[1]

Historically the art of warfare and its methods of execution have kept evolving over centuries. Revolution in military affairs unleashed during the last couple of decades of 20th century once again brought in a profound change in the nature of warfare as it is to be fought in future. Today, information, hybrid, space, and asymmetrical warfare have become part of the latest generation of warfare where changes are taking place at astonishing speed, powered as they are by breath-taking technological evolution often in the civilian field. Any professional military will have to evolve and remain in sync with tomorrow's evolving nature of warfare so as to retain the ability to deliver when asked to do so. It is beyond dispute that technology shall be the biggest force multiplier in future wars. The Indian Army has ample exposure to conventional warfare—from world wars to 21st century. Certain internal disturbances and subsequent rise of insurgency and terrorism brought in a completely new dimension. The army has acquitted itself well and has a history of success in all forms of warfare. The crowning glory of course is the complete victory in 1971 which is now part of military folk lore. It is this victory, ironically that brings to fore the question captioned in the heading—can we fight tomorrow's war by celebrating past success? More so when in a nuclearised South Asian environment, all out conventional war is unlikely to be the norm.

Hybrid and Grey Zone War

The most recent conventional conflagration took place between Armenia and Azerbaijan in the Nagorno Karabakh Region. It was conventional in one sense, but unconventional in the other. This war was watched with great interest around the globe and is of particular interest to military thinkers and planners. It was primarily so since over a decade or so a perception was being shaped that

the world is moving away from conventional warfare inducing a sense of complacency. This short war has served as a wakeup call, more so in the Indian context. Also, worth taking note of are two seemingly unrelated incidents — assassination of Iranian General Qassem Suleimani in Jan and nuclear scientist Mohsen Fakhrizadeh in Dec 2020. Use of satellites, drones, artificial intelligence (AI) and remotely controlled operations in these two cases can no longer be seen as one-off instance but as integral part of future grey zone battlefield. This brings out that to view grey zone war through the terrorism lens only may be fallacious. Infringing laws of war and sovereignty using technology is part of the lexicon.

Technology. The military relevant technological trends likely to play a major role in next 20-30 years have been analysed in an exhaustive paper from Brookings Institution by Michael 'O Hanlon titled "Forecasting Change in Military Technology 2020-2040"[2]. He has listed almost all major technologies which may have a decisive influence on the future battlefield. Apart from drones there are numerous trends visible or emerging in key areas of military technology. These are in the field of sensors, of many different types, which gather data of relevance to military operations. Then there are the computer and communication systems that process and distribute that data. This is followed by major weapon platforms and key enabling technologies for those platforms. Further there are relatively new technologies which hitherto may not have been considered relevant by militaries e.g., offensive cyber capabilities, Internet of Things (IoT), network centric warfare, quantum computing, Anti-satellite missiles, directed energy weapons, and the list of path breaking innovations goes on. While this is pure technological empowering of the military, its application in a manner that enables deniability, or which is unexpected is what falls in the grey zone.

Another exciting domain with infinite possibilities is robotics and Artificial Intelligence. Small robots that can operate as swarms in all three dimensions-land, air or under water-may be capable of deciding when to offload their lethal munitions. For example, small robots that can operate as swarms on land, in the air, or in the water may be given certain leeway to decide when to

operate their lethal capabilities. By communicating with each other, and processing information about the enemy in real time, they could concentrate attacks where defences are weakest, in a form of combat that John Allen and Amir Husain call “hyper war” because of its speed and intensity.[3] Other types of swarms could attack parked aircraft; small explosives, precisely detonated, could disable wings or engines or produce secondary and much larger explosions. Many countries will have the capacity to do such things in the coming 20 years.[4] With Unmanned Aerial Vehicles (UAVs) that can fly 10 hours and a 1000 kilometre now costing only in the hundreds of thousands of dollars, and quad copters with ranges of a kilometre more or less costing in the hundreds of dollars, the trend lines are clear and the affordability of using many drones in an organized way is evident.[5] Although defences against such robotics will surely be built, at present they are underdeveloped against possible small UAV swarms.[6] And unless area defence allows for a certain part of the sky, sea, or land effectively to be swept clear of any robotics within a certain zone, it seems statistically likely that some offensive UAVs will survive a defender’s efforts to neutralise them - meaning that their capabilities to act as a swarm, even if perhaps a weakened one, will probably remain. Robotics with artificial intelligence may also be deployed on the battlefield in close partnership with real humans. These robotics could be paired one for one, or in larger numbers, under the control and for the purposes of a single soldier or unit.[7]

Drone technology particularly makes for an interesting study in view of demonstrated usage. Having identified its potential military usage, it has been a while since these have been inducted into various armed forces of the world — both in its armed and unarmed avatars. Arguably they were the single most important factor which tilted the balance decisively in favour of Azerbaijan. Videos of these armed drones swooping down on infantry soldiers, vehicle convoys, tank columns, artillery and air defence gun emplacements and so on creating destruction and mayhem on ground have gone viral on social media. Regulations for commercial or consumer drones for purchase are currently very rudimentary or lax. Anyone anywhere can purchase drones at a local hobby shop for personal use. Drone and micro drone

technology are easy to commandeer and inexpensive enough to add to their arsenal of effective weapon systems by shadowy organisations operating in the Grey Zone. Keeping in view the threats that could emanate from drones advertently or inadvertently, the Indian Civil Aviation authority has promulgated the National Counter Rouge Drone Guidelines[8] in 2019 and the Unmanned Aircraft Systems (UAS) Rules 2021.[9]

Indian Context

India has a volatile border, both to its East and West. The conventional threat from West as well as its manifestation is somewhat predictable while the unconventional threat is not. All along the border, scope for grey zone operations by the adversary exists. The use of drones to send weapons and drugs across, the terrorist-smuggler nexus are instances of the murky grey zone where the enemy can operate.[10] In case of our eastern adversary, the situation is somewhat more unnerving since the intentions and modus operandi remain inscrutable and opaque. This has been demonstrated repeatedly over a period of last two decades or so when we have been surprised by the adversary. There is a requirement for India to carry out restructuring and capacity building to meet the newly evolving threats.

Restructuring. The present structure of army has evolved over decades and withstood the test of time. However, in the same breadth it can also be said that the more the things have changed, the more they have remained the same. Our basic structure is a throwback to the world wars, a legacy we inherited from our colonial rulers. A large, unwieldy and monolithic organisation is an anathema and anachronism for the future milieu. Recent move towards relatively small, lean, flexible and integrated organisation is a step in the right direction. Special Forces are the need of the grey zone war times with their capability for stealth and deniability. Such capability also needs to be seen through the prism of terrain specific concepts and equipment given the wide variety of terrain obtaining in our context. A detailed study is required by experts in the field to examine the peculiarities of grey zone war afresh and suggest organisations adept to operate in the conventional and unconventional fields. The conventional army needs to disengage itself completely from the counter insurgency arena. Responsibility

for counterinsurgency operations must, therefore, shift to specialised forces like *Rashtriya Rifles (RR)* and the Central Reserve Police Force (CRPF).

Capacity Building. Capacity building should be multi-pronged albeit with the singular aim — decisive edge over recognised adversaries with meaningful deterrence capability. Two intertwined verticals need to be developed — intellectual and material — having a kinetic as well as non-kinetic version. The man behind machine has rightfully been recognised as the most important cog in the wheel, yet the machine itself can't be relegated to a secondary position as the recent conflict in Armenia has amply demonstrated. Acquisitions should now shift from heavy ordnance like main battle tank and long-range howitzers to precision and technology driven weapons/solutions. Use of third dimension must be factored in our acquisitions. Bottom line is that our inventory of weapon systems must reflect the shift from capture of real estate to debilitating the enemy. This is both physically and psychologically.

With grey zone war demonstrating its utility and an obvious requirement to be coordinated at the highest military and political levels, war can no longer be seen as 'military only' subject where others are only responsible for provisioning. Concept of dual use technology and harnessing of expertise in non-military domain must become part of our national security doctrine. Structures need to be built and greenfield projects launched for carrying out research in areas of emerging technologies and how these can be tweaked for furtherance in the prosecution of grey zone war.

Existing think tanks on strategic matters need to expand the themes of research to include perception management and cyber warfare as also use of space based and low-cost platforms.

Formal and structured technical collaboration with institutions like Indian Institutes of Technology (IITs) and Indian Institute of Science (IISc) needs to be worked out so as to facilitate identification and research in military related and/or multiple use technologies. Creation of cyber warrior teams consisting of students and young professionals who have the aptitude for the same would pay dividends for devising offensive or defensive

measures in the grey zone using commercially off-the-shelf technology. Opening new avenues for entry of domain experts even on a short-term contract for specific projects for which necessary expertise is not available within the services is a concept which will pay dividends.

In the grey zone war milieu, a military leader cannot function from an isolated silo any more, nor can the civil bureaucracy avoid taking their military counterparts on board in matters of national security. A short capsule at Lal Bahadur Shastri Academy may be considered for officers from the armed forces to aid better civil-military synergy as also to understand the strengths of the civil administration which can be leveraged for grey zone responses. It would also help in synergised response in times of unprecedented situations like the one in Galwan valley. This, with the use of technically 'non-lethal' weapons to circumvent agreed legal restrictions, was an obvious grey zone clash.

Brainstorming exercises are essential to identify future grey zone threats and validate counter concepts; however, the method of application of forces by the 'enemy' side must not conform to our comfort level but to the prevailing environmental realities. Identification of enemy's centre of gravity - militarily and in his society - is imperative so that a techno-military strategy could be adopted for it to be threatened. Radical ideas need to be encouraged and boundaries pushed rather than being conformist.

Conclusion

War is a serious business with direct impact on a nation's conscience and self-image, not to talk of the economic cost. We only have to analyse the wars on the opposite side of the spectrum to understand the above. On one end are the short, sharp and destructive conventional wars and on the other are the prolonged wars of counter insurgency and counter terrorism. While we as a nation justifiably feel euphoric and ecstatic about the former where we glorify their victories and tales of valour, scars of the latter are left behind not only on the military but also on many sectors of society in the alienation and bitterness or economic losses. The fast-paced technological evolution and the way it can be integrated into perception management require to be

factored in all war fighting philosophy and concepts. Therefore, introspection, keeping an eye on the changing environmental realities, and a constant assessment of own capabilities and limitations are required. Our entire perspective to war fighting needs course correction from time to time so as to remain in sync with the contemporary. The contemporary today and tomorrow encompasses grey zone war.

Endnotes

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