# Upping our game: near-future intelligence support within the 'disaggregated battlespace'

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In recent decades, the civilian sector has surpassed the military in many areas of innovation and research. Once the domain of government-financed military agencies, an increasing proportion of innovation now derives from private 'tech giants' with the imagination and budget to drive the advancement of technology. The Internet has also facilitated greater technological awareness in the broader community, providing non-specialist users with unprecedented information on new technologies and emerging developments.

Notwithstanding their increasingly broad civilian development and application, the scope and rate of technological advances have and will continue to shape the conduct of modern military operations and improve their command and control, as well as the provision of logistics. This article offers an insight into how such developments will likely shape the future conduct of warfare within a 'disaggregated battlespace', which includes the trend of a 'gradualist approach' to

avoid triggering intervention, as well as the corresponding requirements of intelligence professionals.

## The effect of long-range platforms/precision weapons

Recent advances in unmanned aerial vehicles (UAVs) have captured the imagination across both civil and military domains. The agile and cost-effective nature of UAVs makes their military application ideal, particularly for less wealthy nations and even non-state groups. Certainly, their employment in recent conflicts as a surveillance and reconnaissance tool, along with their ability to deliver precision kinetic effects, has done much to influence and shape those conflicts. It has also influenced and shaped the public's perception of modern warfare.

In the foreseeable future, UAVs could be used to attack key targets, including major naval

platforms, with 'swarms of multi-mission UAVs … [preceded by] waves of decoy drones, exhausting air-to-air and ship-to-air missiles'.[1] 'Swarming' is a military threat that challenges missile-defence orthodoxy, with no obvious counter-technology at present. UAVs also offer the ability to economically deliver precision effects at a much lower risk than manned aircraft. Furthermore, UAVs offer a potential force-projection capability, a key requirement in the increasingly technological battlespace where militaries typically seek to create distance between the battlespace and their key national interests.

There has also been rapid development in the evolvement of precision stand-off weapons that complement force projection. Ground-based, air-to-ground and naval long-range missiles pose an escalating threat. During a recent joint exercise, the US aircraft carrier group within the scenario was essentially held hostage by the fictitious threat posed by a long-range, shore-based anti-ship missile system.[2] The threat severely degraded the aircraft carrier group's influence during the conduct of the joint combat scenario, demonstrating the asymmetrical impact that a relatively low-cost, long-range weapon could have on the most expensive and capable military equipment in the world.

In a recent article on the future battlefield, US Army Chief of Staff General Mark Milley was cited as saying that 'land-based forces … [would] have to penetrate denied areas to facilitate air and naval forces'.[3] Milley envisaged an anti-access/area-denial (A2/AD) zone with ground forces facing everything from 'rifles and tanks to electronic jammers, computer viruses, and long-range missiles striking targets on the land, in the air and even at sea'. US Department of Defense Deputy Secretary Bob Work has similarly referred to the 'spread of long-range precision missiles, linked by wireless networks to long-range sensors—such as drones and satellites—that provide targeting data'.[4] This appreciation of long-range force projection is addressed in the US Army's latest warfighting concept, known as the Multi-Domain Battle, where battle will be contested not just in air, sea and land domains but also in the informational and cyber realms.[5]

# The 'disaggregated battlespace'

The rapid evolution of technology will arguably influence three key areas in the future conduct of warfare: logistics, command, and communications. Milley has warned that we 'are on the cusp of a fundamental change in the character of ground warfare'. Identifying the increasing threat of precision long-range weapons, he contends that units will not be able to remain static for long periods of time, asserting that 'if you stay in one place longer than two or three hours, you will be dead'.[6]

An adversary's logistics chain has always been a highly desirable target. In future, logistics within the battlespace will need to become more internalised, utilising technology to maintain combat power, while traditional logistic systems will need to be hardened and made more resilient to survive precision weapons aimed at fuel supplies and lines of communication.

Technological solutions could include combat units fabricating spare parts using 3D printing, and purifying their own drinking water, to remove the need for echelon support.[7] Further internalisation could include 3D printing of food and ammunition, and using solar power and electrical technology to reduce the dependency on liquid fossil fuels. Unmanned aerial, ground and submersible systems could also provide a much less targetable method of resupply, in almost all terrain and weather conditions, by reducing the risk of interdiction through precision targeting.

The conduct of operations will also change significantly as units become semi-autonomous through disaggregation to ensure survival and mission success. Commanders will need to remain fluid with their actions as the pace of the battlespace changes. Long planning sessions will need to be replaced by quicker decision cycles, not least because forces with slow response times will be particularly vulnerable to targeting by precision weapons.

The technological threat posed by advanced electronic warfare means that units will increasingly become regularly isolated, in communication terms, from peer and commanding units.[8] As such, 'actions on' will need to evolve from reliance on tactics, techniques and procedures

(TTPs) to carefully considered plans based on an appreciation of multiple scenarios or eventualities. Instead of planning for immediate and subsequent objectives, tactical and operational commanders will need to provide greater mission command and, like a game of chess, allow for the planning of three or four actions ahead to negate disruptions from electronic attack. The character of warfare will become more rapid and chaotic in 'disaggregated warfare', with initiative and adaptability more important than ever.

At the same time, the evolution of battlefield communications offers to provide greater awareness and control than ever before. The prevalence of private communications networks and satellite coverage rivals and surpasses military assets in many areas. Threat groups can utilise encrypted messaging services on private devices connected to civilian networks to instantly notify peers and superiors of friendly troop movements, locations and dispositions. Contemporary violent extremist organisations have migrated to encrypted communications that are extremely difficult, if not impossible, to interdict.

The majority of the world's population possesses hand-held devices that can provide voice, video and data links across most populated and rural areas. This plethora of sensors offers an enormous advantage in understanding the battlespace, as well as enabling those who are willing to take advantage of it. These technologies potentially offer the ability for Australian forces to communicate far more easily and effectively than with the current military communications systems. Hence, consideration should be given to enabling Australian soldiers with handheld devices (either their own or issued) to provide instant C2 in areas where civilian networks are available. This is a key area where the military has been slow to utilise the exceedingly efficient and capable technologies available within the private sector.

## The 'gradualist approach'

The conduct of warfare evolves continuously, with occasional disruption and occasional periods of rapid development. Over the last few decades, a new trend has emerged. 'Gradualism' has long been associated as a political and

social extension of a particular ideology, much like Islamism seeks to convert the world's population to Islam through a graduated approach. However, some major powers have recently been using a far more sinuous and graduated approach in pursuit of geopolitical objectives, in stark contrast to the US invasions during the Gulf Wars. The Russian invasion and annexation of Crimea in early 2014 was achieved with relatively little resistance through a graduated approach using a combination of a proxy insurgent force complemented by special and conventional forces to seize and hold the peninsula.

Key to this were the political and social claims of traditional ownership and the gradual approach to supporting anti-government forces in Ukraine, as well as masking the tactical insertion of Russian troops through effective information operations. This non-linear combination of conventional and unconventional elements has been referred to as the 'Gerasimov doctrine', emanating from General Gerasimov, current Chief of the Russian General Staff.[9] In this manner, Russia was able to invade and subsume a sovereign state's territory, achieving both tactical and strategic surprise while avoiding interruption by the international community through effective deception and inherent deterrence.

This is similar to China's gradualist infiltration into the South China Sea. The Chinese approach is supported by claims to traditional ownership, with China's so-called 'nine-dash line' providing the social and political justification for its actions. In doing so, the Chinese have usurped the territorial and maritime-related resource claims of a number of other states. As a result, China now has multiple runways in the region capable of supporting military aircraft, anti-aircraft installations, regular marine patrols and stationed military personnel. The use of a gradualist approach over some decades has enabled the Chinese to force project far into the South China Sea. Both the Russian and Chinese campaigns have been supported by highly effective psychological operations, clouding the figurative waters through claims of traditional ownership and numbing the effect of military force projection through gradual force build-up.

In terms of non-conventional threats, Islamic State has certainly adopted the disaggregated battlespace approach. Its calling for

home-grown extremists to wage war in their own countries is well known. It has empowered its followers through the provision of guidance and information, enabling initiative and adaptability to replace consistent and supportive direction. Combating this is quite difficult, as the problem is manifested in an extreme ideology rather than a specific organisation or state. This is another feature of near-future warfare, with extreme ideologies adopting disaggregated approaches to stretch security services, either in pursuit of their own ideals or as proxy for a sovereign state.

# What this means for intelligence professionals

The above elements are representative of the changing face of warfare and the future of conflict within the next 20 years. For intelligence professionals, a number of critical changes must be implemented to ensure relevance is maintained. Intelligence-driven operations will continue to be the most effective approach, as reactive operations will cede initiative to an adversary. Timeliness will become the most critical principle. As the pace of change quickens, so too the decision cycle and the intelligence that supports it. Dissemination methods, too often neglected or forgotten in the rush to produce fully synchronised collection plans and reports, will become critical. Intelligence not available to a commander and combatant is at risk of being irrelevant.

## Dissemination becomes key

For dissemination, timeliness has always been the critical factor. Methods of delivery must become shorter. Formations and units will no longer have the time to listen to lengthy intelligence briefs. Intelligence officers should give thought to producing short podcasts of information; small reports that can be messaged through encrypted messaging services, and short videos that provide intelligence briefs complete with supporting terrain pictures, threat TTP clips and geospatial imagery.

With such an approach, a soldier on the ground can receive the same intelligence briefing as the divisional commander. All aspects within the intelligence cycle should be reviewed for efficiencies, while maintaining the integrity of analytical processes. Absorption of the product within minimal timeframes to the widest audience possible must be considered a key tenet. Consideration should also be given to the new manner of absorption by short bursts of information or video feed—which is what we are growing accustomed to every day through social media use.

## Aggregation and 'big data'

Atmospherics will become increasingly useful and critical to gaining an understanding of the battlespace and its current fluidity. Aggregation of the enormous amounts of 'big data' will enable analysts to conduct better trend analysis than ever before. This term is used by many but with little understanding of what constitutes 'big data' and its rather large management requirements.

The data basing of such information is critical, one that is available to the joint environment and able to be accessed through various battlefield management systems. The removal of tactical and operational barriers to intelligence transfer will serve to create greater economy of effort among the joint and special operations analysts. The focus of these efforts will shift to supporting precision weapons, both in the friendly targeting cycle and in the likely capabilities of threat weapons. Commanders will quickly need to know where long-range weapons can affect them, and whether their long-range weapons can achieve a similar effect. Allocating priority and relevance tagging to data will be critical.

As warfare fluidity increases and commanders begin to consider third- and fourth-line objectives as a matter of course, intelligence officers must support this hypothetical planning. Wargaming must become a far more critical component of the planning process—and less about intelligence and operations officers competing to outdo each other with threat capability recall. The scope of possible threat reactions will become more relevant, to provide greater insight to branch planning. Simulations can provide a highly efficient manner to test threat reactions, and are an effective technological solution to support a higher pace.

## Information effects more relevant than ever

The disaggregation of the battle space provides both threat and opportunity. The threat will recognise the ability of friendly elements to force project with precision, and will take steps to mitigate accordingly. This will require a fundamental shift in the targeting approach by intelligence professionals. Clausewitz's model discusses a force's freedom of action, strength and will to fight as derivatives of its centre of gravity.[10]

However, in a disaggregated battlespace where identifying a unit and its strength (deployed capabilities) may become far more difficult—and stand-off distances render aspects of terrain less useful—perhaps the only option will be to focus on undermining an adversary's will to fight. If traditional operations cannot be conducted because of stand-off distances caused by long-range weapons, then comprehensive information actions can continue to target the enemy. The adversary's psyche will become the new high-value target.

## Empowering decision-makers

High-level political decisions will need to be supported with operational and tactical intelligence. The growing tendency of large powers to use a form of gradualism to achieve their objectives means that historical 'triggers' or 'red lines' become blurred. A key example of this lack of red line action was the Obama Administration's response to the Assad regime's use of chemical weapons in Syria in 2012. Intelligence professionals must identify and report the signs of gradualism, using tactical and operational sources, to achieve strategic understanding and subsequent action.

Finally, intelligence professionals must be prepared to adapt existing analytical frameworks in response to changing threats. Doctrine must not become a refuge of the unimaginative. An extremist ideology cannot be analysed using the current intelligence preparation framework. Due consideration should be given to understand the full spectrum of the problem, including the underlying ideology and supporting aspects such as narcotics and global arms trades. This will allow for a comprehensive analysis, and continue to provide awareness and warning for commanders.

## Conclusion

The purpose of this article has been to provide an appreciation of the changing style and advancement of warfare over the next 20 years. Key to this is the technological advancement of the private sector and the flow-on effects for military application. The battlespace will become faster and more fluid, with long-range precision changing the fundamentals of tactical and operational manoeuvre. Mobility will be the key to survival and, in turn, the enemy will become increasingly harder to undermine. Information operations will become more important than ever as a means of continuously targeting the threat.

Furthermore, the style of warfare is changing, with states opting to adopt a gradualist approach to avoid triggering third-party intervention. Extremist ideologies are seizing technology to disaggregate their struggle, and overwhelm and stretch security services. For intelligence professionals, keeping up with decreasing decision cycles will be critical to maintain intelligence-driven operations. Our own methods must change to meet these challenges, to ensure that we continue to provide timely and appropriate advice to Australian commanders.

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