



The Importance of Ground Forces in Denial of Access and Area Denial Devices: A Chinese Perspective.

Earth Thought Notebooks

Monsieur Léon MALCOLM

Published on 07/02/2020

Histoire & stratégie

The United States has long enjoyed undisputed supremacy in international air, sea and submarine space. Today, that era of supremacy is coming to an end.

Léon MALCOLM considers that the strategies of denial of access and area exclusion allow China to create a zone within which any foreign power wishing to deploy there would risk heavy material and human losses.

The weapons systems deployed along its coastline effectively provide a conventional deterrent.

The United States has long enjoyed undisputed supremacy in international air, sea and submarine space, allowing it to challenge these same freedoms of movement to other powers. Many analysts today hypothesize that this era of supremacy is coming to an end. Since the end of the 1990s, strategic debates have been marked by the emergence of a new concept, the antiaccess/area denial (A2/AD), which marks the return of the defensive posture in certain strategic directions. The aim was to restrict access to certain areas, while at the same time limiting US capabilities to deploy optimally^[1]. 1] The concept, which originated in the United States, initially focused on Iran and China. However, through the spread of weapons systems and the concept, many countries can today claim to have such defensive measures.

After a general definition of what a strategy of denial of access and area interdiction is, this article will focus on the historical reasons for this strategy before explaining its strategic doctrine. Finally, we shall return to the various operational components, particularly on the ground, within this strategy.

Definition

Within a generation, China has been able to acquire capabilities described by the

Pentagon as a strategy of denial of access and area interdiction [2]. 2] This strategy is multidimensional and aims to prevent the United States from initially intervening in the first chain of islands encompassing the East and South China Seas. However, China does not define its own strategy as denial of access and area closure. It is a strategy of "active defence", seeking initially to deter the enemy from carrying out an operation against Pékin, to defend himself in the event of an attack, and finally to potentially conduct a counter-attack through symmetrical and/or asymmetrical actions. It is within this active defence strategy that the concept of denial of access and area interdiction is embedded.

Background

The first Gulf War was an electric shock to China's military and political authorities. 3] The overwhelming success of US forces in 1991 forced Chinese analysts to reconsider the ability of the People's Liberation Army to fight and win a war against an adversary using technologically advanced weapons such as GPS-guided bombs.

The Chinese conclusions, however, reinforce them on several points: modern warfare will be short and intense. Faced with this prospect, China appears ill-prepared, in terms of equipment and doctrine. In 1993, President Jiang Zemin asked the People's Liberation Army to be able to fight in localized wars under the condition of computerization. These wars are limited both geographically and temporally, as well as in their political aims. They are fought in an environment where new technologies prevail: high-precision lethal weapons, high mobility and velocity, and a combination of operations in all five dimensions to maximise effects.

Another striking finding in Chinese military writings is that Beijing is lagging behind its potential adversaries, primarily the United States, in terms of military technology. The United States sets the standards for today's military power, is at the centre of the computer and communications revolution, and the first Gulf War is clear proof of this. A succession of crises in the Taiwan Strait will reinforce Chinese fears of American power. In 1995, the President of the Democratic Republic of China, Lee Teng-hui, was invited as an alumnus of Cornell University in the United States to give a speech on the experience of democratization in Taiwan. China objected, arguing that Lee was pro-independence and that his election would jeopardize the stability of the region. Eleven days after Lee's intervention at Cornell, the People's Liberation Army conducted a series of tests at 60 kilometers away from the city. Eleven days after Lee's intervention at Cornell, the People's Liberation Army conducted a series of tests 60 kilometers north of the Taiwanese island of Pengja and repeated them in November of the same year in a large-scale amphibious exercise. As tension remained high, President Clinton dispatched two naval air groups and an amphibious assault ship to the area.

Chinese leaders learned several lessons from the crisis. First, intimidation in this particular context was not productive. On the contrary, the United States demonstrated, through this deployment, its willingness to defend its ally. Secondly, and most importantly, the Chinese armed forces were in no way able to compete with American power. While China's senior military authorities remained convinced that a conflict with the United States was possible, they decided to develop several strategic principles aimed at defeating a more technologically advanced enemy[4]. [4] From these principles flowed the strategy of denial of access and area interdiction.

Strategic Doctrine

As the Chinese military elites are well aware, the nature of conflicts has changed, jeopardizing China's natural strategic assets as well as its vast strategic depth. Thus, in order to hope to dominate technologically more advanced opponents, several strategic directions are being developed, allowing China to maximize its chances of winning. These strategies are based on the observation that, despite US technological and military superiority, the United States will not be able to permanently maintain its advantage in all areas, including political, geographic and logistical. It is not possible for Chinese forces to win in a direct confrontation with US forces. This observation, relayed in numerous articles, leads Beijing to envisage modes of action that differ from a traditional military campaign.

In the first instance, the Chinese forces must seize the initiative as soon as possible, without being at the origin of the conflict. It must be seized at the operational level and not at the strategic level, as the Chinese authorities have clearly understood that once the United States has regrouped its forces, as was the case in the first Gulf War, China will not be able to hold its ground.

In order to obtain the initiative, we must seek the effect of surprise both in terms of temporality and in terms of geography in order to achieve an effect of astonishment. This makes it possible to exploit the new weakness and conduct further operations before the enemy can reorganize. To do this, the Chinese forces can resort to cunning (stratagems, camouflage, feints etc.) and must strike before the enemy troops are all deployed, at the moment when they are most weakened [5].

Pre-emptive attacks are also part of the possibilities explored. Indeed, following the declaration of hostilities, these also make it possible to hinder the deployment of American forces and deliver a significant psychological shock [6]. This initial attack would allow China to compensate for its relative inferiority and to neutralise enemy high-tech systems such as reconnaissance and GPS satellites, C4ISR systems[7], naval air groups, etc. This principle of obtaining the initiative and carrying out pre-emptive attacks is enshrined in the Chinese strategy of "active defence", which consists of attacking key enemy points with the aim of creating a military advantage after the first enemy attack. The paradox lies in the meaning given to this first strike. For China, it is all military operations conducted by the enemy whose objective is to break its territorial integrity and violate its sovereignty. Thus, the support and military deployment of American naval groups in the Taiwan Strait can be considered by Beijing as hostile actions.

Another strategic possibility for Chinese forces to gain the upper hand is to strike the enemy at key points in its military posture, in order to "first paralyze, then destroy" [8]. These points are the support of the entire adverse operating system: command systems, information systems, weapons systems (naval air groups) and logistics systems (ports and air bases), and the connections between these systems. Targeted strikes must be concentrated to maximise their effects, as the destruction of these targets is likely to bring victory closer. In parallel with the destruction of enemy command and information systems, Chinese forces must acquire superiority in terms of receiving, processing and transmitting information. To do this, they can use electronic jamming or attack computer networks, but also use various types of weapons to destroy the enemy's means of

communication and processing; anti-satellite weapons, electro-magnetic pulse weapons, etc. The objective of paralysing the enemy forces in the first instance remains; the destruction of those forces will take place in a second stage, once they have gained the upper hand.

In the event of a conflict with the United States, the Chinese strategy must reduce the American determination to continue fighting. China must therefore make the human and material cost of an American intervention sufficiently high to call it into question. This limit is all the more accessible when the conflict is a local one under the condition of computerisation, during which losses are supposed to be low. By carrying out military and diplomatic actions in parallel, China thus seeks to translate its military victories into political victories that will enable it to negotiate from a position of strength^[9].

g) These strategies of denial of access and area exclusion allow China to create an area stretching from its coastline to its first chain of islands, within which any foreign power wishing to deploy there would risk heavy material and human losses. The weapons systems deployed along its coastline effectively provide a conventional deterrent.

Operational components

An A2/AD arrangement is based on a set of strategies encompassing all milieus and areas of military action. But these strategies are no substitute for the necessary modernisation of the Chinese army. For the latter to be effective, China must equip itself with new equipment. All the components of the Chinese army are involved in the effectiveness of these strategies of zone closure and denial of access. Many of these operations will be carried out jointly, within a unified command, allowing greater synergy between the different weapon systems. We will review the role of the various military corps in this mechanism, but we will focus on land units, whose missions are of primary importance and the most numerous.

The main role of the Chinese navy in denial-of-access operations is to impose a blockade of ports, but also of supply routes, especially fuel. To do this, China can rely on its large fleet of submarines, attacking both merchant and military enemy vessels and laying mines at strategic points. Anchoring can also be carried out by aircraft or by coastguard ships, of which China has a large number. By blocking the enemy fleet(s) in home ports and disrupting their supply, Chinese forces restrict enemy armies in their deployments, making them vulnerable to future attack. The Chinese navy is also responsible for destroying enemy ships, especially aircraft carriers on which 80% of enemy air power is based. For that purpose, it has, as we have seen, many submarines, but also missile-launching ships of various tonnages.

The Chinese air force also has a role to play in this overall strategy. First of all, in support of maritime blockade operations. Indeed, it will attack certain supply lines, but also enemy aircraft carriers and air bases, denying the adversary its ability to defend itself and/or continue its military campaign ^[10]. ^[10] Fighter aircraft will also attack various port facilities, transport ships, etc., which will be attacked by the enemy. At the same time, the Chinese Air Force will carry out its traditional missions, which are, however, part of these denial-of-access strategies: the control and defence of national airspace, the early

detection of hostile forces and the destruction of key points of the enemy's combat infrastructure.

While the two corps discussed above are involved in first-rate missions in operations under a denial-of-access and area interdiction strategy, the core of these missions are the ground units of the Chinese army. I include in the land forces the units that make up the army, the rocket force units and the strategic support force units.

As we have seen above, the Chinese forces must neutralize command and communications centres, important military elements such as aircraft carriers, logistical rear bases and communication channels between all these elements as soon as possible. In order to succeed in its operations, the Chinese military has been developing missile development programmes for several decades. As a result, Beijing has a wide range of delivery systems, some of them low-cost, enabling it to deal effectively with its targets. Many of these means of delivery depend on the strength of rockets, formerly known as "second artillery". Indeed, the Chinese army deploys two types of anti-ship ballistic missiles: the DF-26 and the DF-21D^[11]. It also has more than thirty different cruise missiles, supersonic or not, some of which are derived from ground attack missiles. The multiplicity of delivery systems allows countermeasures and missile defence systems on U.S. Navy ships to be overridden by a saturation effect.

To deal with ground targets, the Chinese have developed several short-, medium- and long-range ballistic missile programmes, as well as cruise missiles in these three range ranges. Some of these delivery vehicles are anti-radiation, and therefore well suited for dealing with C4ISR sites.

The air threat is not to be outdone, since China has developed a wide range of low-cost missiles that can saturate a given airspace. In view of the cost of a modern combat aircraft, the logic here is twofold:

- To deter the enemy from taking action..;
- Defeat the adversary, despite its technological advantage, by systems ^[12], combined or not, at lower cost.

^{12]} With a view to denying the United States its technological advantage, China has developed three types of anti-satellite missiles and conducted its first test in 2007. ^{13]} With this type of weapon, the Chinese military is capable of destroying both low- and high-orbit satellites, preventing the United States fromThe Chinese army is able to destroy both low- and high-orbit satellites, prevent the United States from using reconnaissance satellites and interrupt access to the GPS system, which is used for positioning forces and guiding many missiles and bombs.

China's strategy is not based solely on physical strikes. China has developed electronic and cybernetic warfare capabilities that have their place in China's active defence strategy^[14]. ^{14]} The units conducting combat in the cyber dimension are dependent on the Strategic Support Force, created in January 2016. The objective of these units is to disrupt enemy communications and command and control centres. These actions can therefore be carried out against both military and civilian targets. Similarly, these units are not limited to wartime, but also act in peacetime. Prior to the outbreak of hostilities, Chinese forces will have to conduct intelligence missions to analyse the enemy's cyber

capabilities, the resilience of their networks, and find exploitable vulnerabilities in order to achieve superiority in information warfare as quickly as possible. Once conflict has been declared, these same units will carry out targeted attacks against enemy decision and information centres, radar stations and ground-to-air defence systems, satellites, civilian and military means of communication, and so on. Blind and deaf, the enemy will then be defenceless against the air and missile strikes seen above. The technological advantage of the United States will thus have become its Achilles heel and cause of its defeat.

In conclusion, the anti-access and area interdiction devices are part of a broader strategy, the aim of which is to ensure China's possibility of victory against a technologically superior enemy. By making use of all the components of its forces, first and foremost the land component, Beijing hopes in this way to control its immediate strategic environment, while maintaining its claims not only on the island of Taiwan, but also on many nearby reefs.

However, China, like Russia, is exporting its most advanced "anti" systems, without of course taking into account the problems this poses for Western forces. Such systems have been deployed in operations in the Crimea and Syria. At a time of budgetary restrictions, it is more necessary than ever to continue the efforts that have been made by Western countries, and France in particular, in terms of entry capabilities first, in order to ensure not only our strategic autonomy, but also our capacity for intervention.

1]Evan Braden Montgomery, "Contested Primacy in the Western Pacific: China's Rise and the Future of U.S. Power Projection", *International Security* 38 (1 April 2014): 115-49.

2]Andrew F. Krepinevich and Barry Watts, "Meeting the Anti-Access and Area-Denial Challenge" (Washington, D.C: Center for Strategic and Budgetary Assessments, May 2003).

James Lilley, James R Lilley, and David L Shambaugh, "China's Military Faces the Future", 1999.

Lei Jiang, "Modern Strategy for Using the Inferior to Defeat the Superior" (Beijing: National Defense University Press, 1998).

5]Houqing Wang and Xingye Zhang, "Science of Campaigns" (Beijing: National Defense University Press, 2000).

6] Lu Linzhi, "Preemptive Strikes Are Crucial in Limited High-Tech Wars", *Liberation Army Daily*, February 7, 1996.

7]Computerized Command, Control, Communications, Intelligence, Surveillance, Reconnaissance

8]Wang and Zhang, "Science of Campaigns", 89.

Youzhi Yao and Guangqian Peng, "The Science of Military Strategy" (Beijing: Military Science Publishing House, 2005).

10]Richard P. Hallion, Roger Cliff, and Phillip C. Saunders, "The Chinese Air Force: Evolving Concepts, Roles, and Capabilities" (National Defense University, 2012).

11]Jane's Information Group, "CSS-5 (DF-21)", "Jane's Strategic Weapon System" June 2005.

12] Fixed, mobile, on-board or off-board radar, surface-to-air or air-to-air systems.

Ian M. Easton, "The Great Game in Space, China's Evolving ASAT Weapons Programs and Their Implication for Future U.S. Strategy." (Arlington, Virginia: Project 2049, June 2009).

¹⁴ Magnus Hjørtedal, "China's Use of Cyber Warfare: Espionage Meets Strategic Deterrence", *Journal of Strategic Studies* 4, no. 2 (Summer 2011): pp.1-24.

Léon Malcolme is a doctoral student in political science at the Centre d'études sur la coopération juridique internationale of the University of Poitiers and is the recipient of an R.I.S. scholarship from the Directorate General of International Relations and Strategy. The research themes focus on the contribution of UAVs and new technologies to the Sino-American rivalry. He completed his initial military training as a reservist at the 709 Cognac-Châteaubernard air base and completed his unit integration course at the 1/33 Belfort UAV squadron.

Title :	Monsieur Léon MALCOLM
Author (s) :	Monsieur Léon MALCOLM
Release date	11/04/2018
