THE STRATEGIC ROLE OF LAND FORCES
A French Perspective

Elie TENENBAUM

July 2019

4**ifri**
1979
2019

Defense
Research
Unit

The Institut français des relations internationales (Ifri) is a research center and a forum for debate on major international political and economic issues. Headed by Thierry de Montbrial since its founding in 1979, Ifri is a non-governmental, non-profit organization.

As an independent think tank, Ifri sets its own research agenda, publishing its findings regularly for a global audience. Taking an interdisciplinary approach, Ifri brings together political and economic decision-makers, researchers and internationally renowned experts to animate its debate and research activities.

The opinions expressed in this text are the responsibility of the author alone.

How to cite this publication:
Élie Tenenbaum, "The Strategic Role of Land Forces: A French Perspective",
Focus stratégique, No. 78 *bis*, Ifri, July 2019.

Focus stratégique

Resolving today's security problems requires an integrated approach. Analysis must be cross-cutting and consider the regional and global dimensions of problems, their technological and military aspects, as well as their media linkages and broader human consequences. It must also strive to understand the far reaching and complex dynamics of military transformation, international terrorism or post-conflict stabilization. Through the "**Focus stratégique**" series Ifri's Security Studies Center aims to do so, offering new perspectives on the major international security issues in the world today.

Bringing together researchers from the Security Studies Center and outside experts, the "**Focus stratégique**" alternates general works with the more specialized analysis carried out by the team of the Defense Research Unit (LRD or *Laboratoire de Recherche sur la Défense*).

Author

Élie Tenenbaum is a research fellow at Ifri's Security Studies Center and is the coordinator of the Defense Research Unit. Holding a PhD in military history, his work focuses on irregular warfare and military interventions. He is the author of several articles on counterinsurgency, counter-terrorism, military doctrine, land, air and joint warfare. He recently published a book on the history of irregular warfare entitled *Centurions et Partisans: Une histoire de la guerre irrégulière au XXe siècle* (Paris: Perrin, 2018).

Editorial Board

Chief editor: Élie Tenenbaum

Editorial assistant: Pauline Lévy

Translator: Cadenza Academic Translations

Abstract

While landpower has historically been the most important domain within warfare, it has for some time been dissociated from the concept of "strategic forces". In general, these instead refer to long-range and/or high-yield strike capabilities, and particularly to nuclear weapons. At the operational level, the growing importance of the command of the commons has led to a conception of land forces as mere consumers of support provided by air, sea, and information forces. But the supremacy of Western forces over these "fluid spaces" is becoming increasingly contested, and this longstanding dynamic is now being challenged. It is time to reassess the contribution of land forces to the primary strategic functions: intervention and stabilization, deterrence and prevention, and protection and anticipation. Land forces are essential tools for each of these core missions, for which there is no readily available substitute. The operational environment of the future will be ever more contested and demanding, and land forces will have to demonstrate their renewed relevance in the face of challenges like anti-access and area denial capabilities, hybrid actors, and ambiguous warfare strategies. They will play a key role in integrating and providing multi-domain effects, thereby improving joint forces' overall resilience and ability to maneuver.

Résumé

Quoique premier et principal domaine de l'histoire de la guerre, la puissance terrestre a depuis quelque temps maintenant été dissociée de la notion de "forces stratégiques", ces dernières renvoyant généralement à des moyens longue portée et/ou à de fortes puissances de destruction, au premier rang desquels les armes nucléaires. L'importance croissante de la maîtrise d'espaces communs a parfois conduit à considérer les forces terrestres comme de simples consommateurs d'effets interarmées. Une telle dynamique est désormais remise en cause alors que les puissances occidentales se voient de plus en plus contestées dans leur suprématie sur les "espaces fluides". Le temps est donc venu de réévaluer la contribution des forces terrestres aux grandes fonctions stratégiques que sont l'intervention, la dissuasion, la prévention, la protection et l'anticipation. Dans chacune de ces missions, les forces terrestres se révèlent être des instruments essentiels, sans alternatives évidentes. Alors qu'il semble clair que l'environnement opérationnel futur sera plus contesté et exigeant, les forces terrestres vont devoir continuer à démontrer leur pertinence pour faire face à des défis tels que le déni d'accès et l'interdiction de zone, l'hybridation des adversaires, ou encore l'ambiguïté stratégique. Dans une telle perspective, elles seront amenées à jouer un rôle central comme forces intégratrices et pourvoyeuses d'effets multi-domaines, contribuant à l'amélioration globale de la résilience et de la capacité de manœuvre.

Table of Contents

Introduction

Philosophers in ancient Greece, Rome, and the Far East divided the universe into four elements: earth, water, air, and fire. Some added a fifth element, ether or the void, and some a sixth, mind.[1] Millennia later, human activity still revolves around these great domains. And war, as a natural social phenomenon, is no exception: it is conducted on land, on sea, in the air, and in the void of outer space. Firepower has of course been central to the art of war since the introduction of gunpowder, transcending the other domains.[2] Forces of the mind have always presided over this "duel of wills", and have never been in greater use than now, when information technology is reshaping our view of the modern battlefield.[3]

Among these six domains, earth—or land—is the first over which human beings exercised property rights. This led inevitably to conflict. It remains the sole domain where human beings live permanently and, ultimately, the only one that still determines what is at stake within a conflict. It is land forces whose mission is to win wars within that domain that is the very object of war; and so it is somewhat surprising that, neither in France nor elsewhere, is there any "strategic" land forces unit comparable to the Strategic Air Forces or the Strategic Oceanic Force, respectively in charge of air and naval component of the French nuclear deterrent. To understand the reason why, we must first review the definition of the term "strategic", and its institutional use.

The term "strategy" comes from the Greek word *strategos*, meaning the general or leader of the armies on the battlefield. This sense of the word, used throughout the Middle Ages, only referred to what we would today call tactics—that is, the art of using armed forces to achieve military objectives. It was not until the eighteenth century and the Enlightenment that the term "strategy" came to signify a superior level of understanding. French military theorist Paul-Gédéon Joly de Maizeroy is generally credited with this semantic shift, which made strategy the art of attaining the ultimate ends of war. With Clausewitz's help, these soon became identified as political ends. This sense of "strategy" is still the one used by theorists and historians, and it is the one we will use here: "the art of the

---

1. P. Ball, *The Elements: A Very Short Introduction*, Oxford: Oxford University Press, 2004.
2. L. Fromaget, "Le feu dans le modèle de guerre occidental", *Focus stratégique*, No. 17, 2009.
3. C. von Clausewitz, *On War*, trans. M. Howard and P. Paret, Princeton University Press, 1984.

dialectic of two opposing wills using force [i.e. military means] to resolve their dispute [i.e. achieving political ends]".[4]

Over time, however, this definition has become distinct from the one given by policy makers, civil servants, and to a certain extent by the military itself. With the advent of total war – the mobilization of a country's total resources in service of war – "strategy" has come to designate not just the dialectic of two opposing wills using *force*, but also all other policy tools that contribute to the conduct of the war (industry, finance, patriotism, and so on). As a result, the ability to launch attacks outside the battlefield, and potentially against non-military targets, has been described as "strategic"—in contrast to attacks that were limited to opposing armies. Long-range airpower capable of destroying factories, centers of power, and (it was believed) popular morale became *strategic*. Atomic weapons confirmed this ability; it became clear, after the bombing of Hiroshima and Nagasaki, that the power of such weapons alone was enough to change the course of a war.[5]

Gradually, the term "strategic" came to be reserved for capabilities that went beyond a certain threshold of destructiveness and a certain radius of action, and whose decisive impact meant that their use was a political issue, typically nuclear weapons and in-depth strikes. Because they did not have such weapons systems, land forces lost the title of strategic forces, even though they continued to show that they were able to achieve political objectives.

We use the term "land forces" here in the most general sense, rather than "army", which has a more institutional meaning. Land forces are all those that are operationally related to the land domain. As well as the expected formations (infantry, cavalry, artillery, engineers, and so on), this includes the land-based elements of other services (marines and special operation forces) and, to a degree, ground-based air defenses, coastal artillery, and so on. On the other hand, the army typically possesses forces operating in other domains—typically Army Aviation, which is responsible, in particular, for helicopters. We will discuss this little, if at all.

Given these respective definitions of strategy and land forces, we now need to understand how land forces can prove a useful (and even essential) tool for achieving political goals by military means. To do so, we must first explore the relationship between land forces and military strategy in general. We will then describe their potential contribution to achieving the political objectives fixed by decision makers and defined, in France, as the

---

4. A. Beaufre, *An Introduction to Strategy*, London: Faber & Faber, 1965, p. 22.
5. H. Strachan, "The Lost Meaning of Strategy", *Survival*, Vol. 47, No. 3, October 2005, pp. 33-54.

strategic functions of the armed forces. Finally, we will draw from this a specific strategy for land forces, one that offers an army model capable of responding to future challenges.

Land Forces and Military Strategy

In order to properly understand the role of land forces and their place in the military, one must first study the intrinsic characteristics of the land domain. These distinctive features provide the conditions for a genuinely strategic use of land forces. This initial exploratory approach also requires us to consider these forces' relationship to other domains (air, sea, space, and cyberspace) which, unlike land, are "commons", the control of which is an essential prerequisite for any armed action. While operational experience over the last two decades has clearly demonstrated the part played by other services, it has also confirmed the limitations that arise from an overly light presence on the ground, and the renewed importance of controlling and influencing territory as closely as possible.

The Land Domain, a Strategic Blind Spot

Something may be obvious, but that does not amount to proof. The dominance of land forces in warfare since the dawn of humanity is beyond debate. But this fact has, paradoxically, led to a neglect of the land domain in Western strategic literature. Such writing offers much work on naval or maritime strategy, airpower, and even informational and cyber warfare. Yet there are relatively few specifically dedicated to the land domain.[6] This is to be expected: land is "the natural habitat of humanity" and, consequently, the general case for which strategy was conceived. As French strategist Hervé Coutau-Bégarie has remarked, this means that "when we talk about strategy 'in general,' we are doing land strategy, even if we introduce incidental or corrective features related to maritime and aerial environments".[7]

It is only recently that certain authors, particularly in the United States, have turned their attention to this blind spot and emphasized

---

6. C. Tuck, *Understanding Land Warfare*, London: Routledge, 2014, p. 2. For instance, there is no entry for "forces terrestres" (land forces), "guerre terrestre" (land war), or "stratégie terrestre" (land strategy) in the major dictionaries of strategy including, for instance, T. de Montbrial and J. Klein, *Dictionnaire de stratégie*, Paris: PUF, 2000, or F. Ramel, J-B. Jeangène-Vilmer, and B. Durieux, *Dictionnaire de la guerre et de la paix*, Paris: PUF, 2017.

7. H. Coutau-Bégarie, *Traité de stratégie*, Paris: Économica, 2006, p. 539. Translator's note: Unless otherwise stated, all translations of foreign language quotations are our own.

landpower's intrinsic qualities. Modeled on the far earlier concepts of seapower, popularized by Alfred Mahan in the nineteenth century, and airpower, which was prominent from the 1920s onwards, the concept of landpower did not truly emerge until it was used in 1997 in *Breaking the Phalanx*, a well-known book by Douglas Macgregor, a US Army colonel.[8] The book appeared during a crisis for American land forces, which were in the thick of their fight against post-Cold War budget cuts. They were also trying to counter the dominant narrative of the Gulf War, which saw the US Air Force as the main instrument of victory while the Army was portrayed as the rear guard—stuck in the past, unwieldy, and poorly suited to the challenges of the year 2000. It was perhaps one of the first times in military history that land forces had to justify their strategic utility.[9]

As we will see below, the role of the other domains has increased considerably in modern warfare. But strategists must not lose sight of the fundamental, "still essential" character of on-the-ground action.[10] Human beings live on earth and earth alone; that is where power lies, and consequently the political issues at the source of any armed conflict. This truism explains why the land domain is critically important, and cannot be seen as equivalent to the others. In this sense, the term "landpower", which makes land one domain among several, fails to do justice to its real importance. Land must instead be seen as the primary domain. Naval, air, and cyber-electronic approaches are simply ways of achieving results on land—that is, in the domain where humanity lives and where its politics play out. If this were not the case, these other domains would lose all relevance. The first and primary characteristic of the land domain is that it is humanity's realm.

The diversity inherent in the organization of human societies naturally means land operations are dependent on the social, political, cultural, and economic contexts in which they unfold. Another distinctive feature of the land domain arises from this initial attribute: its complexity. Of course, such complexity is not just social and political. The earth's physical and geographical variety has no equivalent in other domains: desert, plains, mountains, and forests. These are made even more diverse when crossed with factors such as climate and season cycles, not to forget man-made terrain features like hedges, roads, bridges and cities.[11]

---

8. D. A. Macgregor, *Breaking the Phalanx: A New Design for Landpower in the 21st Century*, Westport: Praeger, 1997.

9. É. de Durand, "La 'mère' de toutes nos batailles", *Guerres mondiales et conflits contemporains*, Vol. 244, No. 4, 2011, pp. 9-30.

10. C. Gray, *Always Strategic: Jointly Essential Landpower*, Carlisle, PA: SSI, 2015.

11. C. Tuck, *Understanding Land Warfare*, *op. cit.,* pp. 13-14.

The domain is made more complex by its opacity. Unlike air—and far more so than above and underwater environments—the land domain is plagued by obstacles and obstructions that reduce visibility and slow progress. Relief manifests this most fundamentally; the Duke of Wellington's basic question about "what was at the other side of the hill" is, undoubtedly, one of the most universal constants of the art of war. Even on the North German Plain, typically assumed to be flat, elevation and vegetation mean an observer can see only 45 percent of the terrain within a kilometer.[12] Urbanization adds to this complexity and, because of the many obstructions it imposes, contributes to opacity.[13] While the use of sensors since the late 1970s has helped thin the "fog of war", opacity remains a fundamental fact, one constantly reintroduced by our opponents' concealment and deception techniques.[14]

Complexity and opacity together add a final characteristic to the land domain: viscosity, all the different sources of resistance that slow the action and movement of troops. Clausewitz admirably described the phenomenon as "friction", and illustrated it with a famous formula: "Everything in war is very simple, but the simplest thing is difficult".[15] Meteorological phenomena are a classic example of this: even before the harsh winter of 1941, spring mud (*raspoutitsa*) played a crucial role by slowing the German Blitzkrieg on the Eastern Front. Relief, climate, and vegetation are, of course, land constraints that can hinder mobility.

Beyond physical obstacles, the land domain often corresponds to what certain military thinkers, under the influence of Gilles Deleuze and Félix Guattari's *Thousand Plateaus*, have described as "striated space"—that is, spaces interspersed with normative barriers like frontiers and boundaries, jurisdictions, distinction between friend and foe, combatant and non-combatant, and so on.[16] These obstacles are directly connected to human occupation of the land domain. Conversely, sparsely occupied territories with few features, like deserts or steppes, have often been grouped with "smooth spaces" more akin to the sea or the air. Such was T. E. Lawrence's

---

12. S. Biddle, *Military Power: Explaining Victory and Defeat in Modern Battle*, Princeton: Princeton University Press, 2004, p. 36.

13. D. E. Johnson, "An Overview of Land Warfare", *2018 Index of US Military Strength*, The Heritage Foundation, 2017, p. 18.

14. R. Hémez, "La survivabilité sur le champ de bataille: entre technologie et manœuvre", *Focus stratégique*, No. 72, March 2017.

15. C. von Clausewitz, *On War, op. cit.,* p. 119.

16. G. Deleuze and F. Guattari, *A Thousand Plateaus*, London: Continuum, 2004, p. 523ff. On the military use of this concept, particularly by Shimon Naveh and the Operational Theory Research Institute, see E. Weizman, "Passer à travers les murs", *Multitudes*, Vol. 28, No. 1, 2007, p. 31.

thinking when he remarked that his campaign in the Arabian desert was "more like naval warfare than ordinary land operations".[17]

As difficult and demanding as the land domain is, the forces that operate in it enjoy considerable advantages over those of the adjacent domains. The first of these is, undoubtedly, persistence. Unlike air and, to a lesser extent, naval forces, which cannot indefinitely remain above or alongside an area of operation, a land force is not a fleeting presence. Persistence is a particularly useful quality in irregular conflicts, where the enemy can appear at any time and in any place, often demanding a permanent presence as close to the population as possible. When French forces were deployed in the Afghan province of Kapisa in 2007, they had only aerial fire support; while this was generally available, it nonetheless depended on the planning of those in command of aerial operations. The severe lack of fire support in the initial moments of the Uzbin ambush in August 2008, led the French staff to deploy a 155mm CAESAR battery that could provide immediate, permanent fire support for deployed troops.[18]

The widespread use of drones in the last decade or so has started to challenge the idea that persistence is a distinctive feature of the land domain. For the minute, however, drones are still handicapped by their "straw vision" and by the very distant cognitive apprehension that they afford of the theater. Naval forces are more persistent than air forces, although they eventually have to refuel at a port. Their ability to support land forces, however, depends on the proximity of the theater to the coast. Finally, it should be noted that, while persistence is an advantage for a force that has established dominance over land, it can also be dangerous in unfavorable situations: a ground unit encircled by the enemy will have difficulty disengaging, and cannot resort to evasive action or bail out. But this additional risk is well-known, and expressive of clear political determination, which can prove to be an asset in the duel of the wills that lies at the heart of warfare: deploying land forces means being ready to pay the price of blood.

Another feature of land forces is their reduced dependence on material resources: "on the ground, soldiers can use their courage, their tactical experience, and their better grasp of the terrain to offset a degree of

---

17. T. E. Lawrence, "The Evolution of a Revolt", in Michael Elliott-Bateman, John Ellis, and Tom Bowden (eds.), *Revolt to Revolution: Studies in the 19th and 20th Century European Experience*, Manchester: Rowman and Littlefield, 1974, p. 153.
18. É. Tenenbaum, "Entre ciel et terre. Le débat air-sol et le défi de l'appui-feu", *Focus stratégique*, No. 35, Ifri, February 2012, available at www.ifri.org.

material inferiority".[19] This has led to many unexpected victories by materially inferior forces—in quantity or in quality—against opponents initially in stronger situations. One of the main expressions of this "lack of polarity" is Clausewitz's rule that, all else being equal, defense is always superior to offense.[20] This holds far more on land than in other areas. Persistence is the natural state of land forces and, in Clausewitz's terms, "preservation" is easier than "conquest". This does not apply so strongly at sea, in the air, or in cyberspace, where the defender's position offers no intrinsic advantage over the attacker.

Persistence and offense-defense balance mean that land forces are an incomparable instrument of military power. They alone offer, as US Army doctrine states, "the ability—by threat, force, or occupation—to gain, sustain, and exploit control over land, resources, and people".[21] This definition of landpower correctly emphasizes control as the main feature of land operations. While air, naval, or cyber electronic forces can prevent an adversary from gaining effective control of a territory, only another land force can take the adversary's place. This is in essence what the American historian T. R. Fehrenbach emphatically described in his famous history of the Korean War:

> The object of warfare is to dominate a portion of the earth, with its peoples, for causes either just or unjust. It is not to destroy the land and people, unless you have gone wholly mad. [...] You may fly over a land forever, you may bomb it, atomize it, pulverize it and wipe it clean of life—but if you desire to defend it, protect it, and keep it for civilization, you must do this on the ground, the way the Roman legions did, by putting your young men into the mud.[22]

Among all the characteristics of land forces, it is control that makes them the most indispensable. Even when a military campaign is waged mostly from the air or at sea, only a ground maneuver (or at least the possibility of one) can ensure such control—that is the ability to submit the opponent to one's will.

At the Mercy of the Commons?

While there is no doubt that the land domain is incomparably important in the history of war, it has gradually had to confront alternative strategies

---

19. H. Coutau-Bégarie, *Introduction à la Stratégie*, Vol. 2, Paris: CID, 1995, quoted in O. Zajec, "Les catégories spatiales de l'action stratégique", in S. Taillat, J. Henrotin, and O. Schmitt (eds.), *Guerre et stratégie: Approches, concepts,* Paris: PUF, 2016, p. 119.

20. C. von Clausewitz, *On War, op. cit.,* p. 83, p. 357-9.

21. ADP 3–1, *Unified Land Operations*, Washington, D.C.: Department of the Army, 2012.

22. T.R. Fehrenbach, *This Kind of War: The Classic Korean War History*, Washington, D.C.: Brassey's, 1998, p. 290.

that aim to control land from the surrounding domains: sea, air, space, and information. These domains are mostly uninhabitable and, by definition, "smoother"—that is, lacking the "strata" characteristically encountered in land operations. They belong to everyone and no one, and are "commons" that connect occupied areas and control access to them. (The term "commons" was originally used to describe pastures set aside for community use.) On a global scale, commons govern trade between nations, the circulation of people, goods, capital, and ideas, and thereby determine the arithmetic of power relations. This is why authors like Alfred T. Mahan, Paul Kennedy, and Barry Posen see the military command of these spaces as a primary source of power, and even of international hegemony.[23]

The sea was the first commons whose control was the subject of military strife. The first great naval battle, which took place at Salamis in 480 BC, led to the concept of "thalassocracy", describing Athens' control over the surrounding seas. Over the centuries, other powers have followed the same path: Venice and Genoa in the Middle Ages, Portugal in the early modern period, and Great Britain and the United States in modern times have all used their naval superiority to establish hegemony. But few of these polities had the luxury to rely on their navy to ensure their security—only Britain and, to a lesser extent, the United States, whose strategic isolation makes them exceptions. The downfall of the great thalassocracies often came from the land domain that they neglected: Sparta, the least maritime of all the Greek cities, defeated Athens; Genoa was swallowed by Piedmont, and Venice by Austria. With the exception of island powers, a navy is often a luxury that enables countries to project power, but is rarely enough to protect it. For a long time, this was the dilemma France faced—under Louis XIV, under Napoleon, and during the Belle Époque. France's military prestige might depend on its Navy, but its survival was decided on the Rhine, and not in the harbors of Brest and Toulon.

This geographical fact does not make dominance of the seas any less of an offensive military advantage. Seventy percent of the planet is water, and the sea is the "universal connecting route".[24] Controlling it gives higher mobility: one can choose where and when to strike one's enemy. This was the problem faced by Hitler's Germany after the Battle of the Atlantic: having lost control of the seas, it could not predict where the Allies would land, and was forced to build a hopeless "wall" against the ocean. By contrast, naval supremacy gives a well-known defensive advantage, since it considerably limits the enemy's ability to deploy its forces where it wishes,

23. B. Posen, "Command of the Commons: The Military Foundation of U.S. Hegemony", *International Security*, Vol. 28, No. 1, July 2003, pp. 5-46.
24. P. Naville, *Mahan et la maîtrise des mers*, Paris: Berger-Levrault, 1981, p. 24.

forcing them to take long, difficult, indirect routes in order to avoid a break in environment.

Major developments in land transport at the end of the nineteenth century, particularly with the railways, led some like Sir Halford Mackinder to argue that the advantages in mobility enjoyed by those who control the sea would suddenly be reversed, benefiting those with control of land. Following Jomini's principle of the superiority of the "interior lines" to "exterior lines", those who can operate in the heartland necessarily triumph over those who have to travel around the edges.[25] But dominance in Eastern Europe and Central Asia brought the Germans and the Soviets few real logistical advantages, and they could not prevent the maritime powers from controlling those coastal areas, the Rimland, which Nicholas Spykman argued was the real guarantee of global hegemony.[26]

The strength of the classic thinkers of naval strategy is that they treat military power as the means toward wider domination, and not as an end in itself. For Mahan—a disciple of Adam Smith as much as Jomini— economics, and especially commerce understood, very broadly, as the circulation of goods and capital, is the true "wealth and strength of countries".[27] Beyond the operational advantage those who dominate the sea enjoy in terms of mobility, they can target the very sources of land-based military power: the raw materials that give enemy armies food and energy, the capital they are paid with, and the prosperity that allows one to hope for victory. Some authors have treated seapower as something that predominates over landpower, whenever geography allowed it, putting great armies at the mercy of great fleets.

Much the same argument was used in the early days of airpower. Developed between the wars by well-known figures like Giulio Douhet in Italy, Billy Mitchell in America, and Hugh Trenchard in Britain, the concept of "strategic bombing" brought with it the idea that aviation could achieve directly strategic goals by acting on the very sources of power: industrial production sites, popular morale, and seats of power. Land forces had been caught in a tactical-operational stalemate during the First World War. Aircraft, by contrast, could break free from the constraints of fire and terrain, and attack strategically important positions in the rear, beyond the

---

25. H. Mackinder, *Democratic Ideals and Reality: A Study in the Politics of Reconstruction*, London: Constable and Company, 1919.

26. N. J. Spykman, *The Geography of the Peace*, New York: Harcourt, Brace & Company, 1944, pp. 40-57; O. Zajec, *Nicholas John Spykman, l'invention de la géopolitique américaine: un itinéraire intellectuel aux origines de la théorie réaliste des relations internationales*, Paris: Presses Universitaires Paris-Sorbonne, 2016.

27. A. Mahan, *The Influence of Sea Power Upon History, 1660–1783*, Boston: Little and Brown, 1923, p. 2.

farthest reaches of heavy artillery. Even more than Mahan and the navalists, Douhet and his supporters used futuristic ideas of their time to bluntly argue that, now aviation's speed and penetration gave it direct access to an opponent's center of gravity, victory could come only from the air.

Strategic bombing was used by the Axis and Allied forces on a massive scale during the Second World War, but its effects were neither as fast nor as decisive as its interwar advocates had thought. The Blitz on London and the bombing of German cities caused a large number of civilian casualties, but neither truly managed to alter the other party's will to fight. Japan's decision to surrender in August 1945 in the aftermath of the atomic strikes on Hiroshima and Nagasaki was crucial for intellectually "saving" the concept of strategic bombing.[28] However, its limits were visible once more in Vietnam, where Operation Rolling Thunder aimed to "convince" Hanoi to stop supporting the communist insurgency in the south. The failure to change the enemy's mind, in spite of the million tons of bombs dropped north of the seventeenth parallel, put temporary end to the idea that a war could be won solely from the air.[29]

But the considerable progress made by information technology since the 1970s, and its application to precision guidance systems for air-to-ground munitions, revived the idea that airpower could be enough. With the Gulf War (1990-1), a conflict seemed for the first time in history to have been decided primarily from the air. The actual land campaign was limited to four days (the "100-hour war"), and apparently did little beyond reaping the successes of the Air Force's bombing campaign—aptly named *Instant Thunder*, in hopes of exorcising the ghost of Vietnam. But the narrative of a "strategic" air victory requires qualification: the plan to topple Saddam Hussein's regime using targeted strikes proved a complete failure, as did SCUD and chemical weapons hunting, which eventually owed more to special forces than airpower. Even attempts at operational denial were disappointing: the US Air Force could not prevent the orderly retreat of the Iraqi Republican Guard, the lifeline of the regime. The success of airpower in 1991 was primarily tactical: the systematic neutralization of enemy air defenses, the destruction of unprotected armored units, and close support for the land forces were unquestionable successes.[30]

The widespread use of airpower was strengthened throughout the 1990s by a growing number of military interventions that aimed to defend

---

28. L. Freedman, *The Evolution of Nuclear Strategy*, Basingstoke: Macmillan, 1983.

29. M. Clodfelter, *The Limits of Air Power: The American Bombing of North Vietnam*, New York: Free Press, 1989.

30. M. Gordon and B. Trainor, *The Generals' War: The Inside Story of the Conflict in the Gulf*, Boston: Little, Brown, 1995; Durand, "La 'mère' de toutes nos batailles", p. 9.

genuine, but limited and non-existential, interests on the part of Western powers. It is a fundamental strategic principle that the means used are proportional to the interests at stake; popular and political tolerance for the human and financial costs associated with these missions decrease when the stakes of those intervening are limited. Western air supremacy, established in the late 1980s, offered the United States and its allies' aerial domination over any threat, air-to-air or surface-to-air. This provided a unique guarantee of security for such operations. Naval forces have enjoyed the same feeling of security and "operational impunity". During Operation Inherent Resolve against ISIS, US naval and air forces accounted respectively for only 2 percent and 1 percent of combat losses, while making up 19 percent and 21 percent of forces deployed.[31]

In the 1990s, airpower's considerable strategic mobility, and the speed with which it can be implemented, also seemed better suited to the new political and media tempo that had been imposed on military operations since the Gulf War.[32] By contrast, the deployment time of seapower is measured in weeks, as seen with the Falklands war in 1982. The American strategist Eliot Cohen characterized the strategic utility of airpower as "gratification without commitment", and it became the ideal crisis management tool, allowing strong action at a safe distance.[33] This approach led to NATO's almost exclusive use of air force when forcing Serbia to cease military action in Kosovo in 1999. Ground troops were deployed only after hostilities ceased, in order to enforce the peace agreement.[34] Even when ground troops appear necessary, Western air supremacy allowed them to be kept to a strict minimum. In 2001, the 10th Mountain Division landed at Mazar-i-Sharif with no substantive support beyond a few mortars, confident that the US Air Force could provide close air support as needed.[35]

This air-centric model triumphed in the United States and among a number of its allies until the mid-2000s. This led, in capability terms, to substantial cuts in land forces, particularly those considered "redundant" or even incompatible with the air force. The main casualties were often

---

31. S. Smith, "The Cost of War since September 11, 2001: Post 9-11 Statistics", *The Balance*, June 13, 2017, available at www.thebalance.com.

32. T. Rid, *War and Media Operations: The US Military and the Press from Vietnam to Iraq*, London: Routledge, 2007.

33. E. A. Cohen, "The Mystique of U.S. Air Power", *Foreign Affairs*, Vol. 73, No. 1, 1994, pp. 109-124. See also É. de Durand, "Les faces cachées de la puissance aérienne", *Revue Défense Nationale*, No. 6, June 2007.

34. B. S. Lambeth, *The Transformation of American Air Power*, Ithaca: Cornell University Press, 2000.

35. S. Biddle, "Allies, Airpower, and Modern Warfare: The Afghan Model in Afghanistan and Iraq", *International Security*, Vol. 30, No. 3, 2005, pp. 161-76.

platforms that were too large or too heavy to be easily air-transported. The Army was slimmed down under Donald Rumsfeld's leadership: it was "too heavy, took too long, and wanted to bring too much stuff with it to attain decisive force".[36] Such use of airpower did not deny that land forces could be useful at times. But, even more than seapower, airpower limited the strategic utility of landpower, making such use conditional on interoperability with aviation—meaning land forces' effectiveness was entirely dependent on air dominance.

The air superiority of the West that characterized the 1990s and 2000s mostly followed from information superiority. This was expressed by the formula "Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance" (C4ISR)—referring to the ability to collect data, process it electronically, elaborate an order, transmit it to the agent, and guide them to the target. A sizeable share of this data may come from airborne sensors. Other parts depend on satellite, submarine, or even land-based capabilities. Nonetheless, they describe an "information common" that some have described as "cyberspace" because of the speed of the operations involved. The progressive spread of information technologies at all levels of decision-making and across all systems necessary for combat and command has led to the gradual emergence of cyberspace as a domain in its own right, although one lacking any physical environment to speak of.[37]

Air and naval forces are without doubt the primary consumers of C4ISR capabilities, and the smooth, relatively transparent nature of their domains facilitated the process of digitizing the battle space at the outset. Initially, land forces were affected only indirectly by the advent of cyberspace as a real domain of warfare. This influence has been growing since the digitization of land forces began. In France, it started with the ATLAS program for the artillery branch in the 1990s and the SIC and SICF information and command systems. The French army's implementation of the first part of the Scorpion program in 2016, which uses the new generation SICS system to drive the digitization process even further, shows the growing influence of the cyber domain on land forces. But land forces are more resistant to this process than their counterparts in the air force and navy (see below).

In addition to its logical and material layer, there exists a cognitive layer linked more directly to the human operator and their ability to

---

36. J. McGrath, *Fire for Effect: Field Artillery and Close Air Support in the US Army*, Fort Leavenworth: Combat Studies Institute Press, 2007, p. 149.
37. J. Barnes, "NATO Recognizes Cyberspace as New Frontier in Defense", *Wall Street Journal*, June 14, 2016.

interpret data.[38] This ability is connected to other "cognitive" processes that act on perceptions and morale, and which have always existed. These were known during the twentieth century as "psychological warfare". The vectors of such warfare have continued to multiply history throughout—word of mouth, print, radio, television, and now the internet and other data networks. The emergence of artificial intelligence will have profound consequences on the whole spectrum of military strategies, and confirms that the cyber domain is just one way of approaching a vast "immaterial domain", where the ether of the ancient world joins the similarly all-pervading forces of the mind.

Challenges to the Western Model

The land domain is enclosed by commons that control access to it, use of it, its safety, and even its ability to communicate. Despite being the primary stake in armed conflict, the land domain has at points appeared strategically secondary, its fate apparently conditioned by prior knowledge in other areas. While we will not question the central role played by fluid spaces in modern strategies, which are necessarily "multi-domain", operational experience over the last two decades has shown that such supremacy, however essential, has never been sufficient.

In his key article on the command of the commons, Barry Posen wrote about the persistence of "contested zones" that hinder the effectiveness of naval, air, or information strategies, and bar them from being implemented at a safe distance.[39] The so-called "light footprint" approach was used at the start of Operation Enduring Freedom in 2001, and aimed to attain decisive force while minimizing the presence of troops on the ground—restricting them, ideally, to a handful of special forces troops and some light infantry units.[40] But the imperatives of stabilization and counter-insurgency led very quickly to the deployment of more and more troops, a control approach similar to the one used in Iraq during the surge years of 2007-9.[41]

Beyond the examples of Afghanistan and Iraq, the weaknesses of the "light footprint" approach gradually emerged in the 2000s, when two clear challenges to the military superiority offered by the command of the commons emerged. The first was suppression—that is, canceling out the effects of force exerted on land from other domains. Low-tech solutions

---

38. M. Baud, "Cyberguerre: En quête d'une stratégie", *Focus stratégique*, No. 44, Ifri, May 2013, available at www.ifri.org.
39. B. Posen, "Command of the Commons", *op. cit.,* pp. 48-9.
40. S. Biddle, "Allies, Airpower, and Modern Warfare", *op. cit.*
41. S. Biddle, J. A. Friedman, and J. N. Shapiro, "Testing the Surge: Why Did Violence Decline in Iraq in 2007?", *International Security*, Vol. 37, No. 1, July 2012, pp. 7-40.

have been used to escape Western powers' dominance of information space. For instance, having learnt lessons from the Gulf and Bosnian wars, the Serbs managed during the conflict in Kosovo to limit their radio communications and radar emissions as much as possible, wary of being intercepted and detected by NATO's C4ISR capacities.[42] Others, like al-Qaeda fighters in the Afghan-Pakistani tribal areas, have dematerialized their means of communication, returning to the far older technique of hand-delivered messages—which are, obviously, invisible to technical intelligence.[43]

Passive defense methods have also proven successful, particularly in the face of airpower. Strikingly, the opponents of the Western powers have returned, over recent decades, to strategies of hardening and concealing their infrastructure. In 2006, Hezbollah was one of the first to restore a system of bunkers, tunnels, and caches that could withstand Israeli bombing campaigns in Lebanon—a technique that had contributed greatly to the tactical effectiveness of Viet Cong fighters. In Gaza, Hamas was quick to follow the example; so was ISIS in Syria and, especially, Iraq, particularly in the battles of Fallujah and Ramadi in 2016.[44]

As a complement to hardening and concealment, tactical dispersion is also a long-established procedure to fight opponents who have control over the commons. The Gulf War showed the uselessness of concentrating forces when one could not counter enemy airpower. Tactical dispersion increases the cost of a strike, flattening out the initial material asymmetry—"ten million dollars per militant", as Michel Goya said in an article aimed at stressing the crisis of a Western model of warfare trapped by its own technological superiority.[45]

Tactical entanglement, the offensive counterpart to dispersion, involves engaging the enemy so closely that they cannot use air or naval support.[46] The technique has proven itself in countless conflicts: during the Uzbin ambush, fighters closed in on the French soldiers, meaning they could not use support from the US Air Force's A-10 Thunderbolts—despite the fact that these were present on the scene in a matter of minutes. A similar situation occurred more recently in Niger, when a mixed team of

---

42. B. S. Lambeth, *The Transformation of American Air Power, op. cit.*

43. J. S. Corum and W. R. Johnson, *Airpower in Small Wars: Fighting Insurgents and Terrorists*, Lawrence, KS: University Press of Kansas, 2003.

44. J. L. McFate, *The ISIS Defense in Iraq and Syria: Countering an Adaptive Enemy*, Washington, D.C.: Institute for the Study of War, 2015.

45. M. Goya, "Dix millions de dollars le milicien", *Politique étrangère*, Vol. 82, No. 1, Spring 2017, p. 240.

46. On the difficulties of using fire support against irregular enemies, see E. Tenenbaum, "Entre ciel et terre", *op. cit.,* pp. 25-38.

US and Nigerien special forces was attacked by a group from the Islamic State in the Greater Sahara (ISGS); the French air force was urgently dispatched, but unable to intervene except through a show of force, flying low to intimidate the enemy.

Even more than the tactical entanglement of allies and enemies, the strategic entanglement of combatants and non-combatants has had a profound impact on the effectiveness of military interventions. Many have learned from the scandal that erupted when coalition air forces bombed the Amiriyah shelter in Iraq, killing 408 people, most of them women and children. The more Western powers have subsequently tried to reduce the risk of "collateral damage", the more their opponents have tried to exploit it. During Israel's 2012 Operation Pillar of Defense in Gaza, Hamas routinely fired Qassam rockets from occupied areas, significantly limiting the Israel Defense Forces' ability to provide counter-battery fire.[47] During the battle of Mosul in 2016, ISIS made systematic use of "human shields" to protect its decision-making centers from coalition bombing, which was held back by the political risk of collateral damage.[48]

Beyond neutralization, the military effectiveness of superiority through spatial control has been more directly challenged by a second set of issues: interdiction. The rapid spread of so-called anti-access and area denial (A2/AD) capabilities has threatened Western supremacy in the commons for the first time in many years.

Anti-access strategies stop forces from being deployed, preventing them entering the theater of operations. In principle, anti-access occurs when there is a break in domains, and particularly at the interface between the land domain (the central object at stake) and the commons that command access to it.[49] Anti-access can impose considerable constraints on the ability to deploy land forces. The problem is an old one: Hannibal had to take a long, difficult road from Africa to attack Rome because he did not want to, and could not, risk his fleet in the Mediterranean. In extremely remote or insular theaters, anti-access may simply make it impossible to deploy land forces, except where they are already present in the theater—in which case, however, they will have to give up inter-theater supply lines. US forces in the Pacific currently face these issues when confronted by China's anti-access capabilities such as underwater mines and anti-submarine

---

47. Report of the United Nations High Commissioner for Human Rights on the implementation of Human Rights Council Resolutions S-9/1 and S-12/1, Addendum, March 6, 2013, pp. 13-14.
48. N. Cumming-Bruce, "ISIS Has Killed Hundreds of Civilians in Mosul, U.N. Says", *New York Times*, June 8, 2017.
49. C. Brustlein, "Vers la fin de la projection de forces ? I. La menace du déni d'accès", *Focus stratégique*, No. 20, Ifri, April 2010.

weapons, long-range anti-ship missiles, advanced air defense systems, guided rockets, and so on.[50]

Area denial poses a less significant barrier to deploying land forces, but still sets considerable constraints on their margins of operation, depriving them of much of joint support within the theater of operations. The damage to the Israeli corvette *Hanit* by a Hezbollah anti-ship missile during the 2006 war is a prime example of a "hybrid" actor's ability to challenge its opponent's sea supremacy from land, depriving him (in a limited, temporary way) of naval support for ground troops.[51] Similarly, during operations in Ukraine, the Russia-backed Donbass separatists' anti-aircraft capabilities forced the Ukrainian army to abandon close air support for its troops on the ground.[52] Russian or pro-Russian electronic and cyber warfare capabilities have significantly impeded Ukraine's use of communications, radar, and other information systems.[53] In such circumstances, area denial returns landpower to prominence, because it can no longer rely, as it has done for decades, on the support of naval, air, and information forces—which are suddenly too busy defending their superiority in their own domain.

It is clear by now that those implementing military strategies cannot simply abandon land forces without further thought. While command of the commons has become crucial for dominating the battlefield, it does not by itself ensure control over those things at stake in the conflict—whether a territory, a population, or a political process. This task naturally falls to land forces. And while the "light footprint" strategy has reduced land forces' contribution to operations for a time, it has now shown its own limitations. For years now, the optimal exploitation of the command of the commons has been challenged by suppressive techniques. But now it is the command itself that will increasingly be challenged by anti-access and area denial capabilities. This makes the existence of autonomous land forces all the more important, even when such autonomy might seem redundant with joint support from other domains. The part played by land forces in military strategy makes it clear that they still have a strategic role to play. But this is not enough to explain all the different forms taken by this strategic role. We must look in greater detail at land forces' unique contribution to major strategic functions as envisaged by political and military decision-makers.

50. C. J. Bouchat, *US Landpower in the South China Sea*, Carlisle, PA: Strategic Studies Institute, 2017.
51. D. Johnson, *Hard Fighting: Israel and Lebanon in Gaza*, Santa Monica, CA: RAND, p. 66.
52. T. Withington, "Dangers on the Edge of Town", *Armada International*, August 8, 2017.
53. R. McDermott, *Russia's Electronic Warfare Capabilities to 2025: Challenging NATO in the Electromagnetic Spectrum*, International Centre for Defence and Security, September 2017, p.23-5.

The Land Forces' Contribution to Strategic Functions

The concept of a strategic function (*fonction stratégique*) is specific to French defense policy. It is defined as a set of "capabilities, skills, and competences that must be available to the armed forces in order to fulfill their contract with the nation".[54] The concept was only recently formalized, but was implicit in the first White Paper on National Defense in 1972, which described four "capabilities required of the armed forces": nuclear deterrence, territorial defense, European operations, and action outside Europe.[55] Drawing lessons from the end of the Cold War, the 1994 White paper moved away from the perspective of conflict in Central Europe, replacing it with a "conflict prevention" mission, fashionable during a period in which peacekeeping operations were proliferating. Territorial defense took on the more general title of "protection", with a particular emphasis on air and space dimension.[56] Finally, the *Livre Blanc* of 2008 formalized the concept of "strategic function", and added a fifth function, "knowledge and anticipation", acknowledging the growing importance of Intelligence, Surveillance and Reconnaissance (ISR) assets at the tactical, operational, and strategic level.[57] The other four functions are still prevention, deterrence, protection, and intervention; together, they make up the fundamental abilities the armed forces must demonstrate.

This conception has remained constant since then, reiterated in the 2013 White Paper and the 2017 Strategic Review.[58] Since these five functions represent the essential long-term goals of defense policy, it seems appropriate to measure an armed force's strategic relevance in terms of its ability to contribute to them. They can serve as a framework for understanding land forces' strategic role—the part they play in realizing the military's contract with the Nation.

---

54. DC-004, *Glossaire Interarmées de Terminologie Opérationnelle (GIATO)*, Centre Interarmées Concepts de Doctrine et d'Expérimentation, version amended June 1, 2015, p. 68.
55. *Livre Blanc sur la Défense nationale*, Vol. 1, Paris: s.p., 1972, pp. 11-25.
56. *Livre Blanc sur la Défense*, Paris: La Documentation française, 1994, p. 62.
57. *The French White Paper on Defense and National Security*, Paris: Odile Jacob, 2008, pp. 60-2.
58. *Livre Blanc sur la Défense et la sécurité nationale*, Paris: La Documentation française, 2013, p. 69. English version: *French White Paper: Defense and National Security*, Paris: La Documentation française, 2013, p. 68; *Defense and National Security Strategic Review,* Paris: DICoD, 2017, p. 69.

Intervention and Stabilization

While defense and national security strategies treat military intervention as a last resort, after "all other measures [...] have been actively explored",[59] it continues to be the most visible aspect of the armed forces for political decision makers and the public, the heart of the soldier's profession and the "warrior ethos".[60] Intervention—armed action—remains at the heart of military identity. The other functions only reinforce or derive from the initial capability to use force.

In French doctrine, intervention is the initial phase of an operation.[61] Operations involve deploying forces beyond national territory, and most so-called entry operations capabilities therefore rely on the forces that control the commons[62]—a capability that the last two White papers and the Strategic review defined as strategic, and which aims to guarantee access to a theater when access has been denied. It is quite possible for interventions to involve no break in environment—this was the case for Israel with the Lebanon War in 2006, and for Russia with the Russo-Georgian War in 2008. Given the immediate security environment, however, this situation is hopefully not expected to arise in Western Europe or the United States for the time being.

While land forces seem to play only a minor role in entry operations, there are two notable exceptions: amphibious landings and airborne operations, which combine the naval and aerial with the land domain. Where these aim to capture a base that could constitute a "bridgehead"—typically an airport or deep-water port—both are considered highly strategic operations, offering safe passage for a sufficient quantity of resources to alter the overall balance of power.

It is clear that these modes of action have been used relatively little over the last two decades, particularly because of their high cost, the difficulty of implementing them, and their associated risks. Furthermore, such risky ventures have been avoided by post-Cold War geopolitical conditions, which have offered Western land forces relatively easy diplomatic access to spaces adjacent to the theater (such as the deployment of US forces in Saudi Arabia in 1990, or Kuwait in 2003), and even to the theater itself if a local ally is present (as with the Northern Alliance in Afghanistan in 2001).

---

59. *Défense et sécurité nationale*, p. 69.
60 ADP-1, *The Army*, Department of the Army, Washington, DC, November 7, 2012.
61. FT-01, *Gagner la bataille, conduire à la paix. Les forces terrestres dans les conflits aujourd'hui et demain*, Centre de Doctrine d'Emploi des Forces, Paris, January 2007, p. 10.
62. C. Brustlein, "Entry Operations and the Future of Strategic Autonomy", *Focus stratégique*, No. 70 bis, Ifri, December 2017.

But amphibious or airborne first entry operations have not fallen entirely into disuse: in the summer of 2015, armored forces of the United Arab Emirates used an amphibious landing to seize the port of Aden, then in the hands of Houthi militia and their allies.[63] The dangerous operation demonstrated that amphibious capabilities were no longer the preserve of a small number of Western and north-east Asian nations, and that the process itself could still be effective. In airborne operations, no theater has been actually opened by air drops since the 173rd Airborne Brigade landed in Bashur, in northern Iraq, in March 2003. Nonetheless, parachute troops continue to be a strategically useful means for the main Western, Russian, and Chinese military powers.[64] France showed that it was still able to conduct these complex operations when 250 legionnaires of the 2nd Foreign Parachute Regiment landed in Timbuktu in January 2013 as part of Operation Serval.[65]

Beyond these issues of first entry, new anti-access threats have challenged the presupposition that the commons must be controlled, and have consequently challenged land forces' dependence on naval, air, and information forces. One solution is to pre-position land forces near potential theaters. This was the case during Operation Serval, where most forces were composed of French units already present in Senegal and Côte d'Ivoire.[66] Such forward presence have also offered American troops strong positions in Europe and Korea in the event of an attack by Soviet, Chinese, or North Korean forces. While this strategy contributes to intervention, it is primarily a matter of deterrence and prevention (see below).

Once troops have been deployed, the next phase of the intervention may involve combat. The latter has long been the heart of Western strategic thinking, which has been characterized by direct strategies in which destroying hostile armed forces is still the main means of forcing an adversary to submit. Land forces naturally play a role here. But this role varies depending on the enemy's means and modes of action, as well as the political goals of the intervention. During the 1990s, from the Balkans to

---

63 J. Binnie, "Emirati Armoured Brigade Spearheads Aden Breakout", *Jane's Defence Weekly*, August 7, 2015. For a more systematic examination of the issues involved in amphibious warfare, see G. Garnier, "Le pari de l'amphibie: Risque tactique, influence stratégique", *Focus stratégique*, No. 46, Ifri, September 2013.

64. D. Johnson and J. Gordon IV, "Reimagining and Modernizing US Airborne Forces for the 21st Century", *War on the Rocks*, April 20, 2016; see also B. Michel, "Les opérations aéroportées: La profondeur stratégique en question", *Focus stratégique*, No. 37, Ifri, May 2012

65. The operation was a demonstration of force without any tactical consequences, as the fighters whose path it was meant to block had already fled the battlefield. See L. Lagneau, "Le 2e REP a sauté sur Tombouctou", *Zone militaire*, January 28, 2013, available at: www.opex360.com.

66. A. d'Évry, "L'opération Serval à l'épreuve du doute : vrais succès, fausses leçons", *Focus stratégique*, No. 59, Ifri, July 2015.

Iraq, when the goal was simply to keep the enemy out of a particular area or force them to abandon violence, and when they operated in vehicles with little cover, airpower could be enough.[67]

But when the objective was more ambitious—as when the United States sought "regime change" in Iraq in 2003—the need for control, so characteristic of the land domain, unambiguously required the use of ground troops. Similarly, in 2006, the limits imposed on airpower and naval and information superiority forced the Israeli army to deploy land forces in Lebanon, even though the general command initially wanted to limit the campaign exclusively to strategic bombing.[68]

In recent military campaigns worldwide, the West has shown high "military effectiveness" in the intervention phase, which includes both deployment and combat. But many strategists agree that these interventions have had poor "strategic effectiveness". A group of researchers from the RAND Corporation examined this in the light of American military experience between 2001 and 2014. Their final report, *Improving Strategic Competence: Lessons from 13 Years of War*, identified seven essential lessons. One is the importance, from the very beginning, of anticipating and planning for the demands of "stability operations, capacity building, transition, and, if necessary, counterinsurgency".[69] Stabilization is as necessary as intervention itself for guaranteeing an operation's success, but substantially more difficult to implement. French defense doctrine already advocated this in 2007, in document FT-01, *Gagner la bataille, conduire à la paix*, which presented "the stabilization phase [as] the decisive phase of a military operation", adding that "the decisive action is conducted on the ground, in the heart of human societies".[70] Indeed, the skills required for the stabilization phase fall, essentially, within the land domain, since the latter aims at

> restoring the minimum conditions required to ensure the viability of a state (or region) by putting an end to the use of violence as a means of protest and by laying the groundwork for a return to normal life through the initiation of a civilian reconstruction process.[71]

---

67. B. S. Lambeth, *The Transformation of American Air Power, op. cit.*

68. R. Tira, *The Limitations of Standoff Firepower-Based Operations: On Standoff Warfare, Maneuver, and Decision,* Tel Aviv: Institute for National Security Studies, 2007; D. Johnson, *Hard Fighting, op. cit.*

69. L. Robinson *et al.*, *Improving Strategic Competence: Lessons from 13 Years of War*, Santa Monica: RAND Corporation, 2014, p. 63.

70. FT-01, *Gagner la bataille*, *op. cit.,* p. 12.

71. JC(FR)-3.4.9, *Contribution of the Armed Forces to STABilisation (STAB)*, Paris: Centre de concepts de doctrine et d'expérimentation, 2010, p. 15.

It is clear which domain this process falls within from its highly political nature and its requirements in terms of complexity, persistence and, above all, control—attributes intrinsically linked to land operations. When "post-conflict" violence reached a peak in Iraq in 2006, the American administration was forced to undertake a massive stabilization effort, "the surge", and send additional troops to the region. The vast majority of these were land forces. As the US-led coalition grew to 180,000 troops in 2007, levels of violence in the country fell dramatically—by as much as 70 percent for both civilian and military casualties. The actual role played by the Surge on these developments is still debated, but the most recent work has shown that new resources and new counter-insurgency tactics combined decisively with the political "awakening" (*sahwa*) of Sunni tribes in Anbar province: this mix created "something new that neither [the Surge or the *sahwa*] could have achieved alone".[72]

But "success" in Iraq was a long time coming, and the country's near-collapse in the face of ISIS in the summer of 2014 cast grave doubts on whether the results of the American stabilization were sustainable. Similarly, the application of "Iraqi methods" to Afghanistan also showed the limits of the approach. With the security situation in the country deteriorating, President Obama decided in early 2010 to increase troop numbers, bringing coalition forces to more than 130,000. The costs of the Afghan surge were substantial: around 3,500 coalition troops died, 38,000 members of the Afghan security forces, and at least 31,000 civilians.[73] Financially, direct budgetary costs for the United States alone ran to hundreds of billions of dollars. The budget of Operation Freedom's Sentinel was still $46 billion in 2017, with an additional $1 billion for development assistance.[74] These figures may strike us, quite reasonably, as disproportionate: Afghanistan's GDP is less than $20 billion, and the initial goal of the operation Enduring Freedom was simply "eradicating just 20 to 30 al-Qaeda leaders".[75] The main objective of the stabilization mission itself was "to enable the Afghan government to provide effective security across the country", a situation that still seemed very far away at the end of the operation.[76]

---

72. S. Biddle, J. A. Friedman, and J. N. Shapiro, "Testing the Surge", *op. cit.*

73. N. C. Crawford, "Update on the Human Costs of War for Afghanistan and Pakistan, 2001 to mid-2016", Costs of War Project, Watson Institute for International and Public Affairs, August 2016.

74. Defense Budget Overview, United States Department of Defense Fiscal Year 2018 Budget Request, Office of the Under Secretary of Defense, Chief Financial Officer, May 2017, par. 6-1.

75. Afghanistan Study Group, *A New Way Forward: Rethinking US Strategy in Afghanistan*, 2010, p. 5.

76. "ISAF's Mission in Afghanistan (2001-2014)", NATO, September 1, 2015, available at: www.nato.int.

A number of authors have tried to explain the poor—even outright bad—strategic record of heavy footprint stabilization operations. Political science has focused especially on the notion of asymmetry: while the intervening power had the material military advantage, this was offset by an asymmetry of interest which favored its enemies.[77] For the United States, the stakes involved in stabilizing Afghanistan have remained limited; for the Taliban, by contrast, they were essential, and even existential. The result is an "asymmetry of wills", which pushes the intervention's opponents to tolerate greater human, financial, political, and diplomatic costs.[78] Obama's decision to proceed with the Afghan surge is a perfect example of this asymmetry. Wanting to limit the operation's political and financial costs, he announced a withdrawal schedule at the same time he sent reinforcements, inevitably weakening the credibility of his commitment.

Other arguments about the failure of stabilization operations came from the idea, put forward in 2009 by the Australian strategist David Kilcullen, of an "auto-immune response" triggered by the intervention of a massive number of foreign troops within a society, making strategic effectiveness inversely proportional to the quantity of resources deployed.[79] Some proponents of land-based stabilization missions have tried to mitigate this argument by introducing a temporal factor, arguing that there exists a narrow window of opportunity after an intervention, the "golden hour", for conducting a "generous" stabilization operation supported by local populations and by public opinion within the intervening country.[80] This window was certainly not respected in the Iraq and Afghanistan wars, with stabilization efforts only beginning several years after the initial intervention.

Whatever the reasons for the failure of large-scale nation building and counterinsurgency operations, they soon became unacceptable for most Western policymakers, who instead preferred "minimalist" approaches to stabilization.[81] For stabilization operations, standard NATO doctrine prescribes a ratio of around 20 soldiers for every 1,000 inhabitants; minimalist operations, by contrast, fall well below 1 per 1000. This is currently the case for Operations Inherent Resolve and Freedom's Sentinel

77. I. Arreguín-Toft, "How the Weak Win Wars: A Theory of Asymmetric Conflict", *International Security*, Vol. 26, No. 1, 2001, pp. 93-128.

78. S. Metz, "La guerre asymétrique et l'avenir de l'Occident", *Politique étrangère*, Vol. 68, No. 1, pp. 25-40.

79. D. J. Kilcullen, *The Accidental Guerrilla*, London: Hurst, 2009, p. 274.

80. J. Dobbins *et al.*, *The Beginner's Guide to Nation-Building*, Santa Monica: RAND Corporation, 2007.

81. S. Watts *et al.*, *The Uses and Limits of Small-Scale Military Interventions*, Santa Monica: RAND Corporation, 2012.

in Iraq and Afghanistan and for most French operations in Africa.[82] Proponents of such approaches argue that it avoids the dangers of asymmetric wills, exorbitant costs, and nationalist or anti-imperialist auto-immune responses. It also pushes intervening powers to rely heavily on local partners, whose presence is deemed legitimate, and who are supposedly more directly interested in stabilization than external stakeholders.

But the minimalist approach has also been disappointing. In a 2017 article, "Small Footprint, Small Payoff", Stephen Biddle, Julia Macdonald, and Ryan Baker identified three dilemmas that undermine its effectiveness.[83] All three involve asymmetries, not between the interventionist power and its opponents, but between the intervener (the "principal", in the study's micro-economics terminology), and the local partner (the "agent") who implements the strategy on the ground, thereby minimizing the principal's footprint.

The first dilemma arises from an asymmetry of interest: the principal is trying to stabilize the country based on its own interests, but this often runs up against the agent's interests—classically, democratic or anti-corruption reform which seem necessary to the principal may threaten the agent's interests, sometimes even more directly than the enemy himself does.[84] A classic version of this dilemma arose in Vietnam, when Ngo Dinh Diem's government refused to carry out reforms demanded by the Americans because they would undermine his own power more than the Viet Cong could.[85] To some degree, the same situation has occurred in Afghanistan with Hamid Karzai's government, and resembles the dilemmas facing France in many countries in the Sahel, particularly Mali.

The second dilemma is information asymmetry: the agent is, by definition, better informed about the situation on the ground. Significant resources are needed to verify that the agent is applying the strategy for which they are being given aid. As these resources grow, they make delegating authority less attractive. This happened in Vietnam, where the number of American "military advisers" reached the ridiculous high point of 23,400 in 1964. Washington currently faces the same problem in

---

82. In comparison, the Surge in Iraq meant the coalition could reach, in 2009, a ration of 6 allied soldiers for every 1,000 inhabitants, and 15 per 1,000 if Iraqi security forces are included.

83. S. Biddle, J. Macdonald, and R. Baker, "Small Footprint, Small Payoff: The Military Effectiveness of Security Force Assistance", *Journal of Strategic Studies*, Vol. 41, No. 1-2, pp. 1-54.

84. *Ibid.*, 10-12; S. Watts *et al.*, *Uses and Limits of Small-Scale Interventions*, *op. cit.*, p. 21.

85. E. G. Miller, *Misalliance: Ngo Dinh Diem, the United States, and the Fate of South Vietnam*, Cambridge, MA: Harvard University Press, 2013.

Afghanistan, where the remaining security force still remains above 9,000 troops.[86] France may soon come up against a similar problem in the Sahel.

Verifying that the agent is complying with the principal's interests is only useful if there are conditions to the aid granted. This is the third and final dilemma. If such conditions are to function, they must be credible in two ways: it must be credible that they will maintain the aid if the implementation meets expectations, and it must be credible that they will cut it off otherwise. Recent years have shown this is extremely difficult to maintain: once the principal has invested large sums, and having tied its reputation to the project, it may be unable to exert much weight on the agent. And if the principal threatens too seriously to disengage, it harms the relationship with the partner, leading to distrust and ultimately undermining the legitimacy of their assistance.

These dilemmas mean that the consequences of the minimalist approach are an expression of a lack of "control" by intervening power over the situation on the ground. This can result in ineffectiveness, and create political risks. The principal may also unwillingly find itself responsible for the agent's behavior. This was the case for France in 1994 when Rwanda, who had benefited from its military assistance, became involved in genocide. The problem has also arisen to a lesser extent in Mali and the Central African Republic. The central problem of interventions becomes, once again, the direct and transitive link between the degree of strategic control a country can exert and the presence of land forces.

Deterrence and Prevention

The Strategic Review of National Defense and Security reiterated in October 2017 that nuclear deterrence remained "the keystone of [French] defense strategy".[87] The term "deterrence" in French official language now has an exclusively nuclear meaning. Since the dismantling of the Hadès system in 1996, French land forces no longer contribute officially and directly to this important function. But this doctrine of nuclear monopoly does not prevail outside France, and the idea that there is a conventional component to deterrence has developed since the beginning of the 1960s, particularly under American influence.[88] Land forces are likely to play a

---

86. "Afghanistan: Post-Taliban Governance, Security, and U.S. Policy", *Congressional Research Service*, December 13, 2017.

87. *Strategic Review,* p. 15.

88. C. Brustlein, "Conventionalizing deterrence? U.S. Prompt Strike Programs and Their Limits", *Proliferation Papers*, No. 52, January 2015; M. S. Gerson, "Conventional Deterrence in the Second Nuclear Age", *Parameters*, Autumn 2009, pp. 32-48. See also the post by M. Goya, "Mais où est donc passée la dissuasion conventionnelle?", *La Voie de l'épée*, February 5, 2017, available at lavoiedelepee.blogspot.fr.

substantial (although not exclusive) role in implementing such conventional deterrence, just as they contribute to the credibility of nuclear deterrence.

As a strategic concept, deterrence is not defined by a specific means, but by the ability to discourage potential attackers from taking particular actions. As French nuclear strategist Bruno Tertrais writes, "conventional deterrence has always existed (*si vis pacem para bellum*), [and is even] consubstantial with the way human societies operate".[89] There are two main mechanisms for deterring potential enemies. The first is the threat of retaliation, also known as deterrence by punishment. This consists in threatening to inflict "unacceptable damage", as the phrase goes, on anyone who attacks a rather ambiguous set of interests—defined by French doctrine as vital interests, and more broadly by the United States. A second mode of action exists, deterrence by denial, where deterrence may be supplemented in appropriate cases by retaliation. This second mechanism does not involve threatening the attacker with punishment, but instead persuading them of the impossibility, or at least the substantial practical difficulty, of realizing their immediate objectives, and so forcing them to abandon them—not out of fear of the consequences of acting, but the low probability of success.[90] Land forces help make each of these mechanisms more credible.

The effectiveness of deterrence by punishment relies on three elements: the operational capacity to inflict damage, the political will to do so and to accept the consequences in terms of escalation, and, finally, the ability to convince the enemy of the credibility of the threat.[91] Given the destructive capabilities associated with the different domains, it is clear that land forces can only contribute marginally to the first of these. Whether it is a question of airborne, submarine, or ground-to-ground nuclear weapons, or a question of conventional weapons, using them relies on commanding the commons, and by definition has not much to do with land forces. But land forces can play a more important role in the other two elements: political will and strategic signaling to the enemy.

These last two elements were the subject of much writing during the Cold War. Nuclear strategists have made much use of game theory to model behaviors, and ensure that the deterrent party maintained the will to retaliate, and that this determination was well understood by the enemy. The stakes were especially high in the United States, which had to give

---

89. B. Tertrais, *L'arme nucléaire*, Paris: PUF, 2008, p. 29.
90. G. H. Snyder, *Deterrence and Defense: Toward a Theory of National Security*, Princeton: Princeton University Press, 1961, pp. 14-16.
91. *Ibid.*, p. 32.

credibility to its stance of "extended deterrence". This was intended not to protect its own vital interests but those of their allies, because the credibility of the threat of reprisals logically decreases in proportion to the interests at stake. It seemed unlikely that State A would be prepared to risk the consequences of a strike against State B in retaliation for the latter's attack on State C, an ally of A that it is committed to defending.[92]

This was very much the situation the United States found itself in when participating in NATO's defense of Western Europe against the Soviet Union. To enhance the credibility of its commitment, which was weakened by asymmetrical interests, deterrence strategists developed a number of mechanisms, including the use of advanced forces as a "tripwire". In the Cold War, the role of American forces in Western Europe and East Asia, for instance, was not just to defend these territories, but to guarantee American retaliation in case of a Soviet attack—even a limited one that did not directly threaten vital American interests. The persistence of land forces mean they are particularly suited to such roles: they form a "sticky" obstacle that cannot avoid an attack, and which therefore strongly commits those deploying them to react if an attack does happen. In 1966, the strategist Thomas Schelling wrote the following about US forces deployed in West Berlin:

> What can 7,000 American troops do, or 12,000 Allied troops [in Berlin]? Bluntly, they can die. They can die heroically, dramatically, and in a manner that guarantees that the action cannot stop there. They represent the pride, the honor, and the reputation of the United States government and its armed forces; and they can apparently hold the entire Red Army at bay. Precisely because there is no graceful way out [...] and because West Berlin is too small an area in which to ignore small encroachments, West Berlin and its military forces constitute one of the most impregnable military outposts of modern times.[93]

This type of tripwire still exists: the 28,500 American troops in South Korea are not meant to stop a North Korean invasion, which could involve up to 700,000 soldiers, but to ensure American solidarity with Seoul.[94] This was also the point of the deployment of rotational NATO forces in Poland and the three Baltic countries that was decided at the Warsaw Summit in 2016. This came in the context of Russian aggression towards Ukraine, which prompted NATO's fear that its credibility would be

---

92. T. C. Schelling, *Arms and Influence*, New Haven: Yale University Press, 2008, p. 35ff.

93. *Ibid.*, p. 47.

94. R. Hémez, "Corée du Sud: la septième armée du monde?" *Focus stratégique*, No. 75, Ifri, September 2017, p. 22.

diminished in a similar scenario involving a member state. In 2014 and 2015, the RAND Corporation ran a series of wargames simulating Russian attacks on Estonia and Lithuania. The force ratio meant Western forces were unable to resist for more than sixty hours before the two countries were taken over. These gains made in record time, the occupied territory would have been immediately claimed as Russia's own (an approach seen already in Crimea) and even a conventional counter-attack would be treated as an attack against Russia itself, with serious consequences.[95] In the absence of a tripwire, threats of retaliation against such an attack become far less credible.

It is partly to cope with such scenarios that NATO members decided to strengthen their presence in the Baltic States by deploying the Enhanced Forward Presence (EFP), a rotational but permanently deployed land force. Each of these four battlegroups contains slightly more than a thousand troops, representing fifteen member-states, and embodying NATO's permanent commitment to those among its allies who are most vulnerable to Russian strategic intimidation. Their mere presence means that a potential enemy cannot be certain of its ability to limit the scale of a war.[96]

In spite of its virtues, tripwire mechanisms leave room for uncertainty. The 4,000 troops in the EFP raise the cost of an attack and make retaliation more credible. Strictly speaking, however, they do not represent an absolute obstacle that could drastically reduce such an attack's military feasibility. If, in spite of everything, the attacking country (Russia, in this example) assumed responsibility for an escalation, it could present the West with a fait accompli, and dare it to risk Paris, London, or New York to save Tallinn. In such a case, deterrence by punishment might reveal its limits.

To restore balance, a strategy of deterrence by denial can cover some of the "blind spots" of deterrence by punishment, particularly in a context of collective defense. In the present case, this would involve deploying a force powerful enough to effectively repel a conventional attack—or, at the very least, raise the cost enough to make it unappealing. The value this adds to deterrence by punishment is that, if the deterrent fails, the forces already deployed would be better prepared for conflict than a mere tripwire force obeying an escalatory, all-or-nothing approach. But the cost of implementing a strategy of deterrence by conventional denial—particularly

---

95. D. A. Shlapak and M. W. Johnson, *Reinforcing Deterrence on NATO's Eastern Flank: Wargaming the Defense of the Baltics*, Santa Monica: RAND Corporation, 2016.

96. NATO's Enhanced Forward Presence, Factsheet, May 2017; "Trip-Wire Deterrence: An Ageing Alliance Hopes that Russia will get the Message It is Serious", *The Economist*, July 2, 2016.

its land-based component—is high.[97] Everything depends on the enemy's means and the force ratio on the ground. It nonetheless seems clear that the situation in Eastern Europe today, confronted with Russia, resembles that of Central Europe when confronted with the Soviet Union: only large numbers of heavy forces (armored cavalry, artillery, and mechanized infantry) would be able to prevent such an attack.[98]

Because it is a more active approach, deterrence by denial has its risks. For instance, there is an ambiguity about its use, which can be both defensive and offensive. If the power one was trying to deter interpreted it in such offensive terms, the entire maneuver would be counterproductive, because it would instead be seen as a provocation—an incitement to precisely trigger the attack one was trying to prevent. A number of European strategists responded to this "security dilemma" in the 1970s, developing the concept of "non-offensive defense", which aimed to protect Europe from Soviet invasion by means that Moscow could not interpret as threatening.[99] Taking full advantage of the viscosity of the land domain and the offense-defense balance distinctive to it, this approach relied on a land-based system heavily focused on defense strategy at the operational level. It envisioned a defense system centered around small, highly mobile motorized units fitted with mines and anti-tank missiles, designed to harass enemy divisions by slowing their advance and immobilizing them.[100] This model was inspired by the defense systems of neutral countries like Switzerland, Finland, and Yugoslavia, and seems to have become attractive to some NATO countries. Estonia, for instance, which has created a popular "defense league" armed with anti-tank missiles and trained for territorial defense.[101]

But such an approach cannot work without relying on nuclear deterrence by punishment. The credibility of such deterrence grows as the means of denial deployed increase. In this respect, a denial force is, de facto, a major tripwire. Conversely, without the ability to retaliate, such a force will never be a complete deterrent: an enemy can always take up the challenge and hope to achieve its goals. This was the case during the Yom

---

97. It was in order to avoid such high costs that America developed tactical nuclear weapons during the Cold War, thousands of which were deployed in Europe until they were withdrawn in the 1990s. Today, only Russia and Pakistan equip their land forces with tactical nuclear weapons.
98. D. A. Shlapak and M. W. Johnson, *Reinforcing Deterrence on NATO's Eastern Flank*, *op. cit.*, p. 26.
99. J. Herz, "Idealist Internationalism and the Security Dilemma", *World Politics*, Vol. 2, No. 2, 1950, p. 157.
100. G. Brossollet, *Essai sur la non-bataille*, Paris: Belin, 1975; see also J. Henrotin, *Techno-guérilla et guerre hybride: Le pire des deux mondes*, Paris: Nuvis, 2014, pp. 67-81.
101. A. Vosman and M. Petersson, "European Defense Planning and the Ukraine Crisis: Two Contrasting Views", *Focus stratégique*, No. 58, June 2015, p. 14.

Kippur War in 1973. Because of the conventional superiority it had demonstrated in the previous conflict—the Six-Day War in 1967—Israel believed it was safe from attack by its Arab neighbors. It was confident that it could persuade them that any attack would be futile. But the Arabs were not deterred, either because they were not convinced of the balance of power, or because they were seeking something other than victory.[102]

Whatever advantages deterrence by denial has over a retaliatory approach, and however much the former may complement the latter, France has formally rejected the idea of any non-nuclear deterrence. Still, Paris has engaged in some thinking to move closer to NATO Strategic Concept adopted in 2010, which bases deterrence "on an appropriate mix of nuclear and conventional capabilities".[103] In 2012, the French military began examining the concept of "strategic intimidation", which it presented as "a form of deterrence excluding any use of nuclear weapons".[104]

Strategic intimidation is a possible way of fulfilling the prevention function.[105] Like deterrence, it tries to stop armed conflict breaking out. But such prevention extends far beyond vital interests, also including the defense of limited interests—maintaining stability within a given area, for instance, or to ensure compliance with international standards. Intimidation is arguably the most aggressive form of crisis prevention because, like deterrence, it relies on the mechanism of threat. Unlike deterrence, however, this is not the threat of defensive action or retaliation, but of offensive action—that is, of intervention. Criteria of operational credibility therefore converge with intervention capabilities. Land forces logically occupy a place in this proportional to the role they would have to play in an actual intervention.

As with deterrence, the credibility of any attempt at intimidation does not just involve the operational ability to carry out a threat. It also requires a show of political will, one the enemy understands. In addition to political and diplomatic measures, strategic intimidation may meet these requirements by making military posturing that signal that the threat is real. Once again, the persistence of land forces signals the greatest political determination. France rarely resorts to such brinkmanship, but Russia

---

102. M. I. Handel, "The Yom Kippur War and the inevitability of surprise", *International Studies Quarterly*, Vol. 21, No. 3, 1977, pp. 461-502.

103. Strategic Concept for the Defence and Security of the Members of the North Atlantic Treaty Organization, Adopted by Heads of State and Government at the NATO Summit in Lisbon 19-20 November 2010.

104. RDIA-006, *Intimidation stratégique*, Paris: Centre interarmées de concepts, de doctrines et d'expérimentations, 2012, p. 9.

105. RDIA-2014/001, *Contribution des armées à la prévention des crises extérieures*, Paris: Centre interarmées de concepts, de doctrines et d'expérimentations, 2012, p. 26.

made effective use of them during the Ukrainian crisis. When Ukraine launched its "counterterrorist operation" to recapture the separatist provinces of Donetsk and Luhansk in 2015, Moscow carried out large-scale exercises and deployed land forces on the Ukrainian border. Such threats eventually put a stop to the operation.[106]

Strategic intimidation is not the only way for land forces to contribute to prevention. The other two modes of action described are "assistance" and "presence".[107] Presence refers to pre-positioned or pre-deployed forces, like those France maintains in Senegal, Ivory Coast, Gabon, Djibouti, and the United Arab Emirates. As we have already seen, this approach proved valuable during recent interventions in Mali and Central Africa. Using forward operating bases (FOBs), a military presence can reinforce the operational credibility of any potential response, and thereby help strategic intimidation. Such presence also plays a more positive role in regional and international stability: set up through defense agreements, it helps to guarantee the security of the countries it is deployed in, to build confidence, and to strengthen the privileged partnerships that shape defense diplomacy, a driving force in crisis prevention strategies.

In addition, most of these military presences also have *pôles opérationnels de coopération* (operational cooperation hubs, POCs) operating on a regional level. These are involved in operational assistance missions well beyond the host country. The POCs in Dakar and Libreville, for instance, train partner forces and provide advice, mentoring, and operational support. They also offer structural cooperation with senior authorities, training military executives and local elites, and increasing awareness of important issues in conflict prevention: peacekeeping, respect for the rule of law, supporting public safety, and so on. Of course, France is not the only one involved in this project, and cooperation has become an essential criterion of international influence.[108]

Of the 4,000 French soldiers deployed as presence forces in 2018, more than 60 percent came from land forces; among those involved in military assistance missions, the vast majority come from land forces.[109] This emphasis on land forces is not specific to France. The United States has also recognized the important land dimension of military assistance missions. Inspired by the global network of partners led by the US special

106. R. R. Anderson, P. J. Ellis, A. M. Paz, *et al.*, *Strategic Landpower and a Resurgent Russia: An Operational Approach to Deterrence*, Carlisle: Strategic Studies Institute, 2016.

107. RDIA-2014/001, *Contribution des armées à la prévention*, pp. 24-25.

108. A. Lebœuf, "Coopérer avec les armées africaines" *Focus stratégique*, No. 76, Ifri, October 2017.

109. Interview with an officer in the Army's general staff, Paris, November 19, 2017.

forces community, the US Army decided in 2014 to create a Global Landpower Network encompassing all military assistance and cooperation activities involving American land forces around the world—an initiative without parallel in other domains.[110]

Different factors explain the predominance of land forces in assistance missions. On the one hand, most partner countries have limited budgets, and cannot lend significant resources to their air force or (where relevant) their navy.[111] These can often seem a useless luxury given the threats these countries face, which most often involve internal security. The primary, fundamental character of the land domain—including internal security forces—is still evident to most of the world's armies. Military cooperation is therefore directed toward the organizations that can help them most: land forces.

The second reason land forces play such an important role in military assistance is that they are less dependent on material factors. The technical knowledge required for air forces, for instance, means they depend far more closely on the particular systems used by each: it will be harder for a Rafale mechanic to train a partner working on a MiG-29 than for instructors from the Train or the Engineers to work with their foreign counterparts.

Finally, camaraderie and a sense of brotherhood arising from shared combat experience—an operational military assistance mission that up to now only land forces have carried out—are crucial for building rapport: the personal ties and mutual empathy that are so necessary for cooperation. French military doctrine, as well as scholarship in the fields of social psychology and management, point to the importance of "knowing and understanding the forces being assisted and their human environment, [as well as] adapting one's know-how and knowledge to the local forces".[112] Because land forces are most directly associated with the local populations among whom they live and fight, and because the land domain is the natural biotope of humanity and human culture, it is logical that this is the primary medium through which preventative assistance missions should take place.

---

110. T. Szayna *et al.*, *The Global Landpower Network: Recommendations for Strengthening Army Engagement*, Santa Monica: RAND Corporation, 2017.

111. J. Gordon IV and J. Matsumura, *The Army's Role in Overcoming Anti-Access and Area Denial Challenges*, Santa Monica: RAND Corporation, 2013, p. 22.

112. DIA, 3.4.5.1, *Assistance militaire opérationnelle à une force étrangère*, Paris: Centre interarmées de concepts, de doctrines et d'expérimentations, 2011, 27; see also, for instance, A. Logan-Terry and R. R. Damari, "Key Culture-General Interactional Skills for Military Personnel", *Procedia Manufacturing*, Vol. 3, 2015, pp. 3990-7.

Protection and Anticipation

Protection is undoubtedly the most fundamental of the strategic functions required of land forces: their primary role is to defend the homeland when it is threatened. In 1972, the first White paper stated that "territorial defense begins on land".[113] The most obvious expression was the concept of *défense opérationnelle du territoire* (operational territorial defense or DOT). This could be traced back to the immediate post-war period, and aimed not only to protect the country against foreign invasion but also against potential internal enemies, whether infiltrators or insurgents.[114] However, Gaullists and French nuclear strategists soon shunned DOT because it was based on the possibility that deterrence might fail. This led it to be was gradually relegated to secondary importance.

The end of the Cold War saw the disappearance of any imminent threat to French national territory. While the 1994 White paper confirmed that protection was one of the major missions of the French defense strategy, it referred only to the threat of "the proliferation of nuclear, biological, and chemical weapons of mass destruction, ballistic or not", opening up the debate about missile defense and expanded air defense systems.[115] From this conception there emerged two permanent air and maritime security postures. These protected the access to the national territory through the commons, and remain in place today.

Throughout the 1990s and 2000s, the protection function virtually disappeared from the strategic remit of the land forces, with the exception of one-off missions to provide security for major events and help protect civil security. The overseas territories are distinctive in this regard. The armed forces, especially the land forces—who make up more than 50 percent of the 7000 troops deployed—provide a permanent state presence in areas which can be remote and sparsely populated. These dependent territories represent only 4 percent of the French population, but make up 18 percent of French territory and 96 percent of its exclusive economic zones. While the civil administration sometimes has difficulty making itself visible, land forces facilitate state action and so maintain the link between the army and the nation. One of the most striking examples of this is Service militaire adapté (Adapted Military Service, SMA), a professional training

---

113. *Livre Blanc sur la Défense nationale, op. cit.,* p. 14.
114. É. Tenenbaum, "La Sentinelle égarée? L'armée de Terre face au terrorisme", *Focus stratégique*, No. 68, Ifri, June 2016, p. 15.
115. *Livre Blanc sur la Défense*, *op. cit.*, p. 62.

and apprenticeship program run by the French army in each of the main dependencies.[116]

The rising terrorist threat in metropolitan France, with waves of attacks in 1986, 1995, and especially after September 11, 2001, allowed land forces to contribute to the interagency Vigipirate scheme. The army provides a modest number of troops—around a thousand—but do so in high-visibility public spaces, including stations and tourist sites. The launch of Operation Sentinelle in the aftermath of the January 2015 attacks profoundly changed how the land forces approached the protection function, and its importance in the missions they undertook. The country underwent a dramatic series of events that undermined national cohesion, and the deployment of 10,000 land forces over 72 hours—as described by the "protection contract" in the 2013 White paper—brought protection back to the forefront of French defense policy.

Similar approaches have been used in Belgium, Italy, and the United Kingdom, but have not been so visible or so enduring. Operation Sentinelle became a long-term operation in the spring of 2015, in the face of a threat with no clear end in sight. The existing plan was adapted and, even in a context of financial tensions, the Army was given supplementary resources. The new importance of the protection function has led to a new "ground protection posture", with a prominent role alongside the already existing permanent air and maritime postures.[117] Unlike the Navy and the Air Force, however, the Army does not act as a first responder domestically: theoretically, it is still a third-category force, requisitioned by civic authorities to supplement the first- and second-category internal security forces (respectively general duty public security police, and public order, riot control, police and gendarmerie). The army is used when both first and second categories are deemed unavailable, insufficient, non-existent, or inadequate. In reality, there are only two choices rather than four: between a quantitative reason (unavailable, insufficient, non-existent) and a qualitative one (inadequate).

The qualitative argument has generally been put forward by government and administration to justify the use of the land forces in the terrorism context, emphasizing their "reassuring" presence for the population.[118] On the evening of November 13 Paris attacks, the arrival of a

---

116. "Les forces de souveraineté outre-mer et le SMA", Paris: Foreign Ministry, November 7, 2016, available at www.outre-mer.gouv.fr.

117. *Conditions d'emploi des armées lorsqu'elles interviennent sur le territoire national pour protéger la population*, Parliamentary report, Paris: Ministry of Defense, 2016, p. 35.

118. "Déclaration du Gouvernement et débat sur le rapport au Parlement relatif aux conditions d'emploi des forces armées sur le territoire national pour protéger la population", Paris: Assemblée Nationale, March 16, 2016.

Sentinelle combat group at the Rue de Charonne, fully equipped and armed, made a strong impression on the public, the police, and rescue workers. As with intervention, deterrence, and prevention, the presence of ground troops attests to the greatest political determination on the part of the government, its acceptance of risks, and the firmness of its control.

This psychological function is supposed to target terrorists as well as the public. The authorities hoped for a "deterrent effect",[119] and this was mostly demonstrated early on in Operation Sentinelle: aside from two minor exceptions, there were no attacks on protected sites in 2015 and 2016.[120] But the deterrent effect has apparently worn off over time. In 2017, six major terrorist attacks took place on sites protected by Sentinelle troops or national police officers. In four of these, the police were the primary target.[121] The soldiers deployed responded in an exemplary manner to each attack, but it is clear that deterrence can no longer be taken for granted. Some even argue that such forces act as a "lightning rod"—which, from the point of view of the protection function, is neither desirable nor intellectually satisfying.[122]

In addition to their "anxiolytic" and deterrent character, land forces have specific operational capabilities that are absent or barely present among internal security forces. These justify their use in protecting national territory.[123] They relate, first of all, to certain physical environments. Just as the Air Force and the Navy alone have the means to protect territory in their respective domains, some land environments (like rain forests or very high mountains) require specialized capabilities that land forces alone can provide. In Operation Harpie, started in 2002 to combat illegal gold mining in French Guyana, the Army has helped the Gendarmerie maintain public order in densely forested areas that are inaccessible to conventional internal security forces.

A second category of capabilities involves combat-related skills: attacking capability, including infantry combat and indirect fire; mobility under fire, including armored combat (which is limited, for the internal

119 . O. Audibert Troin and C. Léonard, "Rapport d'information sur la présence et l'emploi des forces armées sur le territoire national", report number 3864, Assemblée Nationale, June 22, 2016, p. 148.

120. The two exceptions are the attempted knife attack in Nice in February 2015, and the attempted attack with a car at Valence in January 2016.

121. The attacks in question took place at the Louvre Carrousel (February 3), Paris-Orly airport (March 18), the Champs-Élysées (April 20), Notre-Dame (June 6), Levallois-Perret (August 9), and the Saint-Charles train station in Marseille (October 1).

122. B. Chéron, "'L'opération Sentinelle est un paratonnerre qui attire la foudre'", interview by J. Guisnel, *Le Point*, March 27, 2017.

123. M. Goya, "L'armée comme anxiolytique", *La Voie de l'épée*, May 24, 2015, available at lavoiedelepee.blogspot.fr.

security forces, to the sole Groupement blindé de gendarmerie mobile); air mobility (the Gendarmerie's air forces currently maintain only around fifty helicopters); and, to a certain extent, capability to operate within nuclear, radiological, bacteriological, or chemical (NRBC) environments.[124] Fortunately, none of these capabilities are currently needed in domestic missions. As General Denis Favier, then Director General of the Gendarmerie nationale said, "the internal security forces are not in trouble. [...] We are not facing a strategic break—as would be caused, for instance, by the presence of ISIS and our inability to maneuver".[125] In the face of current threats, the Army therefore remains a reserve force, which will not intervene unless the security situation deteriorates dramatically. It is the final resort, which must be kept ready but cannot be normalized.

Two further capabilities are sometimes seen as possible contributions by the armed forces to the protection function: intelligence and planning. These depend to a large extent on the fifth major strategic function, "knowledge and anticipation". We can easily see the close link this has with protection and prevention functions. In an increasingly interconnected and globalized world, anticipation requires strong capabilities for early warning and weak signal detection. Domestically—unlike the navy and air force, which possess such means—land forces remain rather marginal.

Intelligence is obviously central in the fight against terrorism, a threat that is primarily clandestine. But land forces remain categorically excluded from such intelligence, except where on-the-ground information arises without any pre-existing effort to orient it. France's Joint Territorial Defense Organization (OTIAD) has no natural link to the domestic intelligence agencies. But coordination, if it takes place at all—as, for instance, with the Allat unit, and now the National Centre for Counterterrorism (CNCT), run by the national intelligence coordinator[126]— occurs at a much higher level than the land forces and, for the most part, does not benefit them.

Land forces have no access to domestic intelligence except to that of the Defense Security and Intelligence Branch (DRSD), which is limited to the immediate interests of military personnel and positions. As a consequence, they have difficulty contributing more generally to planning. Internal security forces would benefit from being able to do so, but near-

---

124. DFT NRBC 3.8.02/20.002, *Doctrine d'emploi de la défense NRBC spécialisée des forces terrestres sur le territoire national*, Paris: Centre de Doctrine et d'Emploi des Forces, April 2012.
125. Assemblée nationale, interview with General Denis Favier, DGGN, as part of the review by the Commission de la défense nationale et des forces armées, 2016, available at www.assemblee-nationale.fr.
126. S. Seelow, N. Guibert, and E. Vincent, "Antiterrorisme: les missions de la 'task force' de Macron se précisent", *Le Monde*, September 30, 2017.

permanent mobilization and a "culture of immediacy" leave little opportunity for planning.[127] With the exception of Operation Harpie, which led to the creation of an interagency staff that was very successful in joint planning, there is no single domestic chain of command.[128]

In overseas theaters, on the other hand, land forces contribute fully to the knowledge and anticipation functions. Because of their presence on the ground, among the local population, they are best positioned to deploy human intelligence networks, and are the only ones able to mitigate the shortcomings of sensors in the face of dematerialized communications by hybrid or irregular opponents. Recent irregular wars have shown the importance, for strategic analysis, of "understanding the environment"; this can only happen when land forces are in contact with the population.[129] The idea that "every soldier is a sensor"[130] has reached a new dimension with digitization and data fusion, which allow nearly real-time dialogue between the tactical and strategic levels, like the French Army's Intelligence Analysis and Exploitation System (SAER).[131]

French land forces also have specialized intelligence units. Since the implementation of the new "Au Contact" model, these have been concentrated around the Intelligence Command, successor to the Intelligence Brigade that was created in 1993. Particularly notable among these specialized units is the 44th Transmission Regiment, primarily dedicated to strategically valuable electromagnetic interception. The 13th Parachute Dragoon Regiment reports to the Special Operations Command; while it operates at the joint-forces level, its goal is to provide strategic intelligence arising from the land domain. Pre-positioned forces abroad also serve as key observation posts for the regions they oversee.

This review of land forces' possible contributions to the five major strategic functions defined by French defense and national security policy has highlighted two things. The first is that these functions are closely interdependent: intervention helps make deterrence more credible by demonstrating the determination and operational capacity to carry out threats; deterrence plays a part both in conflict prevention and national

127. Interview with a police officer, Secrétariat Général de la Zone de Défense et de Sécurité (SGZDS), Paris, February 23, 2016.

128. *Conditions d'emploi des armées*, p. 61.

129. M. Flynn, M. Pottinger, P. D. Batchelor, *Fixing Intel: A Blueprint for Making Intelligence Relevant in Afghanistan*, Washington, D.C.: Center for New American Security, January 2010, p. 13.

130. Association of the United States Army, "ES2: Every Soldier is a Sensor", discussion paper, August 2004.

131. On all these points, see J. Henrotin, "Les mutations du renseignement militaire: Dissiper le brouillard de la guerre?", *Focus stratégique*, No. 71, Ifri, January 2017, p. 25ff.

protection; and knowledge and anticipation naturally benefit the whole of the structure.

The second is that land forces remain essential for implementing these five functions. While their role varies with circumstances and objectives, no strategic function can neglect the land domain without sacrificing one of the principles of war: freedom of action, economy of means, or concentration of effort. This strategic relevance should inform decisions about capabilities, and guide any definition of an army model that can guarantee mastery of this crucial domain.

A Land Forces Strategy

While land forces have always been present in militaries worldwide, their format and role have varied considerably over time and places. Given their domain-specific qualities and skills, which make a crucial contribution to implementing strategic functions, we should be able to lay the groundwork for a land forces strategy that makes the most of those capabilities best able to meet political needs. We should examine which army model is best able to respond to the widest range of potential threats and missions. Such a recalibration of capabilities also demands that we take new strategic challenges into account, and especially the increasing contestation of the commons—a major development, one that is already radically transforming each service's role in a battlespace that now spreads across multiple domains.

Army Models Dilemmas

An army model or format describes the position and role assigned to each force structure within a military apparatus. The French 2017 Strategic Review described the first goal of defense policy as the implementation of a "full-spectrum and balanced armed forces model".[132] We should distinguish here between the spectrum of capabilities (ranging from the most rudimentary means of action to the most complex weapons systems) and the spectrum of conflict (which extends from simple peaceful competition to all-out total war). Nuclear deterrence missions are at the very top of the spectrum of capabilities, because they involve extremely sophisticated, devastatingly powerful weapons. But they lie relatively low on the spectrum of conflict, since their deterring no-use function fall below the threshold of physical violence.

An army model is primarily concerned with the spectrum of capabilities. At one extreme lie the most complex forces and weapon systems. The commons predominate, because their very nature implies a heavy reliance on technology. But, as we have seen, land forces play a crucial role as long as persistence and/or ground control is required. At the high end of the spectrum, two principles seem dominant among the land-based capabilities required: lethality and survivability. Within this part of

---

the spectrum, these two sides of the same coin logically reflect the offense-defense duality inherent in the art of war.

Lethality obviously involves firepower capabilities, whether explosive power, range, or accuracy. Particular emphasis is placed on modern guided rocket, artillery, missiles and mortars (G-RAMM). We should also include non-lethal attacking capabilities, particularly electronic and cyber warfare. Survivability, on the other hand, involves all the capabilities that allow troops to withstand attacks: protection (typically shielding) has long been a central criterion for high-end capabilities. But more innovative conceptions of survivability require additional criteria, like mobility, discretion, or information resilience.[133] As a combination of the two principles of aggression and survivability, it is no surprise that heavy tanks have for so long been the key capability for dominating the land domain at the high end of the spectrum.[134]

At the other end of the spectrum of capabilities are missions that may appear less technologically demanding but, as shown by recent experience, still require specific skills. The fight against irregular enemies—an evanescent, often clandestine threat—has proved particularly demanding in terms of intelligence and mobility. Neutralizing the enemy depends not so much on aggressive power as on the ability to locate and destroy it before it can escape. These criteria explain the role of light forces (paratroopers, commandos) and rotary wing aviation in such missions. In defense, stabilization abilities are generally the most crucial: troops' training, cultural sensitivity, and political awareness are often key to success.

Land forces' major capabilities are spread over a wide spectrum, and overlap only partially. The infantry, the queen of battle, is present across the whole spectrum, but its means and required capabilities vary greatly, from patrols during the stabilization phase to motorized, armored deployment on highly lethal battlefields.[135] Of course, general principles of land-based action hold for the entire spectrum of capabilities. In a document titled "Action terrestre future", the French Army has described seven factors of operational superiority that apply to all capabilities: leadership performance, understanding, cooperation, agility, mass,

133. R. Hémez, "La survivabilité", *op. cit.*

134. A. d'Évry, "Les chars, un héritage intempestif ?", *Focus stratégique*, No. 53, Ifri, September 2014.

135. P. Chareyron, "Hoplites numériques : Le combat d'infanterie à l'âge de l'information", *Focus stratégique*, No. 30, Ifri, April 2011.

endurance, moral strength, and influence.[136] But the way these different factors translate into capabilities varies considerably between missions.

The difficulty, of course, lies in meeting the recent demand to cover the "whole spectrum" of possible missions, given the specific capabilities involved in each. The challenge is not new: in 2001, the US Army adopted "full spectrum" as its mantra and its approach to capabilities.[137] Land forces now typically respond by dividing their army model into coherent, specialized sub-models. This was the case, for instance, in France during the final years of the Cold War, where the army was divided between a Rapid Action Force (FAR) dedicated to low-spectrum interventions, and a continental force designed to protect the country against a hypothetical Soviet invasion.[138]

But the French Army has been wary to avoid a "two-speed" model by using professionalization and focusing on a unified, deployment-ready force. Differences nevertheless remained, and distribution by specialization was reintroduced in the 2013 White Paper, which proposed the "principle of differentiation of forces".[139] On this principle, land forces were divided into "intervention brigades" (predominantly light and low-spectrum) and "decision brigades" (predominantly heavy and high-spectrum), as well as two "medium brigades". The return to divisions that took place in 2016 with the "Au contact" model again rejected this division of labor, splitting the two armored brigades between each of the two divisions.

Whether we call it by its name or not, specialization requires sufficient resources to respond effectively to all threats, not only qualitatively but quantitatively. What is the power and sophistication of a high-end capability worth if it cannot cope with the attrition inherent in conventional large-scale operations? The problem also arises for the lower end of the spectrum: we have already seen the limits of the "light footprint" approach, and experience shows that stabilization phases can prove very demanding in terms of troop numbers. Mass depends partially on endurance, influence over the theater, and even, ultimately, moral force. While cooperation and agility can sometimes compensate for lack of mass, a force will be unable to fulfill its strategic function in the long term if it cannot itself exercise the capabilities that make this possible. It is precisely this "sample-based" army model that France has long practiced, "designed more

---

136. *Action Terrestre Future*, Paris: État-major de l'armée de Terre, September 2016.

137. FM 3-0, *Operations*, Washington, D.C.: Department of the Army, 2001, par. 1-14.

138. J. Doise and M. Vaïsse, *Diplomatie et outil militaire*, Paris: Seuil, 2015.

139. *Livre Blanc sur la Défense et la sécurité nationale, op. cit.,* p. 85.

to allow political decision-makers to take a prominent place at the table than to carry out actions across the whole spectrum of commitments".[140]

This approach spreads our capabilities too thinly, and there is no panacea for it: either one can adopt additional resources that sufficiently strengthen the army model, or one can abandon its coveted versatility, or at least its excellence across the whole spectrum. This is one lesson of the latest American statement of doctrine *ADRP 3-0, Operations*, which states unequivocally that "large-scale ground combat is the most demanding and lethal end of the conflict continuum and the benchmark against which the Army is equipped and trained".[141] This remarkable development, after so many years devoted to versatility and adaptation to irregular wars, closes an important chapter in American military history.

But we may wonder whether there is a risk here to once again leave behind the low end of the spectrum, much as American land forces did in the aftermath of the Vietnam War. While it is undeniable that an increase in capabilities (including the most irregular ones) is needed, recent history has shown that stabilization is not a variable that can be used to modify the intervention function independently of overall strategic performance.[142] It is true that the US Army does not represent all American land forces, and that the continued involvement of the Marine Corps and the special forces in low-spectrum missions allow the Army to focus on large-scale conventional operations.

Such a division of labor, between several different categories of land forces, is clearly beyond the reach of a country like France, whose resources are incomparably more modest. France cannot afford to abandon one side of the spectrum in favor of the other; nor does its budget allow it to cover the entire spectrum. The solution may lie in adopting the model of a "medium" army—essentially solid, but willing to depend on its allies for the extremes of the spectrum, without entirely ceasing to operate at those extremes. It remains to be seen where along the spectrum we should position ourselves. In order to do so, defense planning must be based on the prospective analysis of future strategic issues and challenges to our capabilities.

---

140. É. de Durand, "Quel format d'armée pour la France?" *Politique étrangère*, Vol. 2, No. 4, 2007, pp. 729-42, p. 729.

141. ADRP 3-0, *Operations*, Washington, D.C., Department of the Army, 2017, par. 1-49, p, 1-8. Taking this choice into account, the more detailed manual FM 3-0 concentrates on conventional large-scale operations.

142. D. Fitzgerald, *Learning to Forget: US Army Counterinsurgency Doctrine and Practice from Vietnam to Iraq*, Stanford: Stanford University Press, 2013; D. E. Johnson, *Doing What You Know: The United States and 250 Years of Irregular War*, Washington, D.C.: Center for Strategic and Budgetary Assessment, August 2017.

Meeting Future Challenges

The *Strategic Review* conducted by the Ministry of the Armed Forces in 2017 clearly identified a number of developments that will present challenges for the armed forces in the future. These are broadly in line with many other strategic studies on the future of the operational environment by 2035.[143] Two trends stand out. The first involves improvements by our opponents to their own armed forces: this evolution builds onto a broader geopolitical catch-up effort, and a rebalancing of the world economy. The second is the growing complexity of the battlefield, due to increasing numbers of actors and their larger capabilities. This leads to a great variety of more or less direct aggressive strategies—a problem some describe as the "gray zone", and which the *Strategic Review* labelled "ambiguity".[144]

Our opponents have made improvements across the entire spectrum of capabilities. The phenomenon became apparent at the low end of the scale during the Lebanon War in 2006. The strategic community was surprised by Hezbollah's sophisticated capabilities, including anti-tank missiles, short-range air defense, and hardened bases. These defeated Israeli forces, which were divided between an air force that was overconfident about the effectiveness of its long-range strikes, and an army that was still configured for low-intensity conflict in the Palestinian territories. The problematic of the "hybrid war" was born—a concept that subsequently flourished, going far beyond efforts to define it strictly in terms of capabilities.[145]

There have since then been other examples of hybrid opponents, and we will likely see more in the coming years, whether they are state-sponsored (as do the separatists in Donbass, the Houthi militia, and popular mobilization forces in Iraq) or not (as is the case with ISIS and al-Qaeda). Land forces remain crucial for confronting them—particularly because of their ability to use concealment, dispersal, and hardening to remain out of reach of the naval, aerial, and even electromagnetic domains.

---

143. M. O'Hanlon, *The Future of Land Warfare*, Washington, D.C.: Brookings Institution Press, 2015; K. Amerson and S. B. Meredith III, "The Future Operating Environment 2050: Chaos, Complexity and Competition", *Small Wars Journal*, 2016; M. Gunzinger, B. Clark, D. Johnson, and J. Sloman, *Force Planning for the Era of Great Power Competition*, Washington, D.C.: Center for Strategic and Budgetary Assessment, 2017; D. A. Macgregor, "All Arms Warfare in the 21st Century", Senate testimony, March 15, 2017, available at www.armed-services.senate.gov.

144. M. J. Mazarr, *Mastering the Gray Zone: Understanding A Changing Era of Conflict*, Carlisle: Strategic Studies Institute, 2015; A. J. Echevarria, *Operating in the Gray Zone: An Alternative Paradigm for U.S. Military Strategy*, Carlisle: Strategic Studies Institute, 2016; N. Freier, *Outplayed: Regaining Strategic Initiative in the Gray Zone*, Carlisle: Strategic Studies Institute, 2016.

145. É. Tenenbaum, "Le piège de la guerre hybride", *Focus stratégique*, No. 63, Ifri, October 2015, available at www.ifri.org.

Israel understood this after its experience in Lebanon and, in subsequent operations in Gaza, systematically deployed land forces from the very start of the operation.[146]

Faced with such "hardened" adversaries, the most relevant land-based capabilities will rise higher up the spectrum. Survivability, in particular, should be a high priority. Passive protection will play a role with the spread of new reactive armor, but resilience will also depend on capabilities that enhance mobility and situational awareness, like early warning systems, and on concealment and deception skills. Despite these efforts, the nine-month long Battle of Mosul showed the importance of mass and endurance in dealing with high attrition rates.[147] We must therefore consider the cost-quantity trade-off for land-based equipment. Faced with high degrees of lethality, quantity becomes a quality in itself: guided weapons as indirect fire support are useless if supplies run out after a few days or weeks.[148]

The spread of urbanization—a massive global phenomenon that will see more than 70 percent of the world's inhabitants living in cities by 2050—clearly has major consequences, both tactical and strategic. Faced with a materially superior opponent, low-spectrum actors have grasped the usefulness of urban combat, which offers numerous obstructions and opportunities for concealment and infiltration. These can provoke their opponents to engage in friendly fire or to cause collateral damage, and the close range of such attacks can increase their lethality.[149] Finally, engineering has once again proved to be a crucial land-based capability during recent battles in Mosul, Aleppo, and Marawi in the Philippines, where the ability to breach obstacles while under fire was a necessary condition for making any progress on the ground.[150]

At the high end of the spectrum, too, there has been an undeniable upgrading of capabilities. First-class powers like China and Russia, nation-states with more limited means like Pakistan, Iran, and Algeria, and "friendly" states like Turkey, India, and Saudi Arabia, have all considerably increased their military capabilities, and particularly their ability to challenge the command of the commons, which until then had been the exclusive domain of Western powers. In the face of the anti-access and area

146. D. Johnson, *Hard Fighting, op. cit.*

147. J. Spyer, "Lessons Learned as Mosul Operation Intensifies", *Jane's Intelligence Review*, February 22, 2017.

148. N. Guibert, "La gestion des munitions, un sujet de tension pour l'armée française", *Le Monde*, November 4, 2016; see also C. Brustlein, "Maîtriser la puissance de feu: Un défi pour les forces terrestres", *Focus stratégique*, No. 61, Ifri, September 2015.

149. F. Chamaud and P. Santoni, *La Ville, ultime champ de bataille*, Paris: Pierre de Taillac, 2016.

150. LTCOL N., "Immediate Lessons from the Battle of Mosul", *Australian Army*, June 25, 2017.

denial strategies discussed above, land forces can offer more than just those missions that they are typically assigned.[151]

As we have seen, anti-access can take many forms. Perhaps the easiest to implement and most widespread is the refusal of diplomatic access: a state simply refuses to allow a foreign army to use its territory as a base for deployment. This happened to the United States in 2003, when Turkey refused to allow its territory to be used to launch the invasion of Iraq. The practice of defense cooperation, in which land forces play the primary role, can be a good way of reducing this risk: maintaining a permanent or regular military presence, even a small one, keeps the country open to a larger presence when needed.[152]

But the core of the threat of anti-access remains of a military dimension. Faced with the interdiction of certain key spaces that give entry to the theater of operations, recent experience has demonstrated the great value of having pre-deployed presence forces close by. Initially, at least, this offers land forces a degree of autonomy relative to naval or air deployment, as well as the immediate ability to react, which is the best guarantee against the fait accompli and aggressive claim strategies discussed above. The United States has begun withdrawing its overseas forces, but the threat of anti-access is now causing it to reverse course and re-emphasize the concept of overseas basing in predetermined geographic areas.[153]

Threats to air bases and ports lie halfway between anti-access and area denial, and are another means of contesting the commons that land forces can counteract. Of course, air and naval forces usually have their own ground security personnel; while not part of the army, these meet our definition of land forces when operationally attached to the land domain. With the proliferation of short-range Guided Rockets, Artillery, Missiles, and Mortars (G-RAMM), however, only conventional land forces will be able to maneuver and secure large areas around air or naval bases.[154] Solutions to long-range threats from cruise or ballistic missiles will require infrastructure hardening or the deployment of active defense systems, operated by the land forces just as much as by the other services.

Finally, there is the question of land forces' potential contribution to area denial strategies, and particularly to surface-to-air missile (SAM) threats. The means for such threats have increased considerably with a new

---

151. M. Gunzinger *et al.*, *Force Planning for the Era of Great Power Competition*, *op. cit.*, p. 12.

152. J. Gordon IV and J. Matsumura, *The Army's Role*, *op. cit.*, p. 22.

153. M. J. Lostumbo *et al.*, *Overseas Basing of U.S. Military Forces: An Assessment of Relative Costs and Strategic Benefit*, Santa Monica: RAND Corporation, 2013.

154. C. Brustlein, É. de Durand, and É. Tenenbaum, *La Suprématie aérienne en péril : menaces et contre-stratégies à l'horizon 2030*, Paris: La Documentation française, 2014.

generation of "double-digit" SAMs, whose performance—particularly within integrated air defense systems—has produced opponents more formidable than anything the West has encountered since the Vietnam War. European countries, and even the United States, have only just begun a much needed and long delayed reconstruction of their Suppression of Enemy Air Defenses (SEAD) capabilities. The land forces can contribute to this project in two ways.

The first is the use of in-depth ground fires through systems like the MGM-140 Army Tactical Missile System, or the French Lance-Roquette Unitaire (LRU), whose range is over 70km—more than the SA-17 Grizzly, for instance, which has a range of 30-40 km. The Grizzly itself exceeds the range of the GPS-guided AASM bomb (French Air Force's principal guided munition), which can barely exceed 20km or so at low flight altitude, and which is currently the French Air Force's primary means for dealing with SAMs. Military history already offers examples of this: during the Yom Kippur War, for instance, Egyptian SAMs were destroyed (or held at a distance, and therefore neutralized) by Israeli indirect fire, which used self-propelled 175mm howitzers deployed on the west bank of the Suez Canal.[155]

The second land-based option against integrated air defense systems involves special operations forces infiltrating SAM batteries, ballistic missile launchers, and radar infrastructures to neutralize, sabotage, or destroy them. This was used particularly in the early phases of the first Gulf War, when a night raid by US Army Special Forces located and neutralized several Iraqi early warning radars, creating a penetration corridor for the first attack flights over Iraq.[156] While most Western militaries now view special operations as joint forces rather than land forces *strictu sensu*, their operational link to the land domain more than any other means land forces must not abandon this "core competency".[157] The US Special Operations Command's participation in the Strategic Landpower initiative, alongside the US Marine Corps and the US Army, is noteworthy in this regard, proving (if proof is needed) that this tool must remain connected to the ground—a tool that is strategic by definition, and whose relevance will continue to grow across every part of the spectrum of capabilities.

While land forces can offer ways of meeting challenges to the commons, they should also recognize consequences for their own security. The sky, the sea, and the electromagnetic spectrum will no longer remain

---

155. J. Gordon IV and J. Matsumura, *The Army's Role, op. cit.,* p. 24.

156. A. Bin, R. Hill and A. Jones, *Desert Storm: A Forgotten War*, Westport: Praeger, 1998, pp. 85-91.

157. C. T. Cleveland and S. L. Farris, "Special Operations: An Army Core Competency", *Army Magazine*, June 2014, pp. 25-8.

uncontested; instead, dominance in these domains will be fought over, and land troops must be able to maneuver without support from other forces busy fighting in their own domain. This radical transformation will involve greater autonomy in terms of support, including fire support, mobility support, and ISTAR (intelligence, surveillance, target acquisition, and reconnaissance) capabilities—particularly the targeting-intelligence process, largely monopolized for the moment by the air force. The latter will also have to share deconfliction duties, and demonstrate greater mutual trust than has existed up to now. The tools for this exist already, but are insufficiently accessible to land forces, depriving their indirect fire support of responsiveness and autonomy.[158]

Even more than offensive autonomy, land forces will also have to regain some degree of independence in defensive matters, previously left to the support of other forces, or even simply ignored because of the lack of a credible threat. Just as survivability in the face of land-based threats will become a major issue in coming years, we should prepare for unprecedented commitments to active protection and short-range surface-to-air defense, as well as to resilience against electronic and cyberattacks. With the Scorpion program, France chose to embrace the digitization of land forces; this puts it at the forefront of technological innovation, but also increasingly exposes it to new dangers, including the jamming, infiltration, and even manipulation of information systems.[159] This could lead land forces toward the "reconnaissance-strike-maneuver-sustainment complex" imagined by the American strategist Douglas Macgregor.[160] In his perspective, the land forces of the future will maneuver like bubbles of survivability within still-contested commons, carrying out autonomous strikes deep in the battlefield against the enemy's centers of operation.

No matter where on capability spectrum the enemy improves their forces, such improvements will apparently help reinforce land forces' strategic role (paradoxically, some would say). Land forces also have an advantage over the surrounding domains: unlike air and naval forces, armies have never lost the habit of facing challenges in their own domain. Soldiers on the ground have always retained a sense of maneuver—permanently necessary when faced with an enemy who can always acquire superiority, even if only locally and temporarily. This has been neglected in other domains, where supremacy has been taken for granted and war has

---

158. Interview with an Army officer, Paris, November 12, 2017; see also E. Tenenbaum, "Entre ciel et terre", *op. cit.*, p. 43.

159. "Cyberrésilience des systèmes d'armes à l'horizon 2020/2025", Chaire Cyberdéfense, Saint-Cyr, report on the seminar of April 7, 2015, available at www.chaire-cyber.fr.

160. D. A. Macgregor, "All Arms Warfare", *op. cit.,* p. 2.

become a matter of picking targets without any fear of that fundamental characteristic of war, reciprocal action.

While improvements to enemy forces is an important factor, it is not the only major development within the operational environment. It may appear as a cliché, but the complexity of the battlefield has grown enormously over the past twenty years; this trend is still ongoing, and we will see a new and decisive phase for armed conflicts in the near future. As discussed above, accelerated urbanization contributes heavily to the increased number of "strata" in inhabited space. Operations will be less and less able to bypass populated civilian spaces, as they have with varying degrees of success since the Renaissance and the development of international law of armed conflict. The armed forces must accept that any changes they undergo will occur within populated spaces.[161]

A persistent civilian presence on the battlefield poses the problem of distinguishing between combatants and non-combatants. The armed forces have so far responded to this through improvements in firepower targeting and accuracy. But tactics of concealment and strategic entanglement continually demonstrate that distinguishing between combatants and non-combatants can only be done on the ground. Land forces also respond to the growing need to manage populations affected by the war, displaced or not, from a humanitarian and political perspective as well as for reasons of strategy, force protection, and rear safety. This was the case in Mosul, for example, where it was necessary to distinguish between civilians fleeing the fights and ISIS militants trying to cross the lines to mount attacks from the rear.[162] Beyond the theater of operations itself, managing refugee flows caused by military operations is a problem that will undoubtedly grow in an increasingly mobile, connected world. Land forces could soon be mobilized to manage part of these flows, whether to ensure security or to combat illegal immigration.[163]

This ability to pick out selectively enemy combatants is also crucial for counteracting a number of indirect strategies that exploit ambiguity and try to evade the responsibility that would arise from more clearly attributed actions. The most well-known example is that of the "little green men" in Crimea, who wore Russian uniforms without the markings that would allow formal identification, and who seized key points on the peninsula in a matter of hours. Once again, only land forces practicing human intelligence

---

161. R. Smith, *The Utility of Force: The Art of War in the Modern World*, London: Penguin, 2006.
162. A. Kaval, R. Ourdan, and H. Sallon, "De Mossoul à Rakka, les civils comptent leurs morts", *Le Monde*, December 26, 2017.
163. RDIA-013, *Contribution des armées à la lutte contre l'immigration irrégulière*, Paris: Centre Interarmées de Concepts, de Doctrines et d'Expérimentations, July 5, 2010.

and maintaining contact with local populations will allow us to publicly expose these ambiguous strategies.

Beyond the use of clandestine forces, proxies, and other unconventional warfare techniques, the battlefield's increasing exposure to panoptic media and social networks offers new opportunities for attack within the cognitive layer of the immaterial domain. Propaganda and psychological warfare have entered a new phase of strategic development, similar to the one that accompanied the birth of wireless broadcasting and, before that, the beginnings of print.[164] Even if countering strategic disinformation campaign primarily comes under the competency of the various civilian agencies, land forces' sustained presence close to populations—including domestically—turns them into strategic tools in the battle of perceptions. Because of the message of political determination they communicate, their ability to reassure, and their ability to engage both the populations and intermediary bodies, land forces will remain essential tools for managing such complexity over the coming years.

The persistence and growth of battlefield complexity is a useful reminder of the fundamentally political nature of war, and how closely the land and human domains are interwoven. This should serve as a warning against any temptation to "fluidify" or "smoothen" this environment, which risks neglecting its fundamental characteristics. Land forces face a tension here that needs to be resolved, between the need for integration with the population, and the increased need for protection arising from opponents' improvements to their forces. We should be wary of a possible return to "bunkerization", or what one American officer in Iraq, describing patrols in a Humvee among the local population, called the "urban submarine" syndrome.[165] This isolation does not just reduce land forces' strategic effectiveness; it also leads to insecurity, because it isolates them from their primary source of intelligence.

A major challenge of the future will be to reconcile two contradictory dynamics: a need for resilience and operational autonomy, and an increased need for interoperability and digital integration to enable collaborative combat. This challenge—which will determine any armed force's strategic relevance—must reflect a new conception of operations that some have already named "multi-domain battle".

---

164. P. Villatoux, *La Guerre psychologique: Des origines à nos jours*, Sceaux: L'Esprit du livre, 2008; J. Ellul, *Histoire de la Propagande*, Paris: PUF, 1967.
165. Cited in D. J. Kilcullen, *Accidental Guerrilla, op. cit.,* p. 136. See also R. Hémez, "La survivabilité", *op. cit.,* p. 36.

The Age of Multi-Domain Battle

There are dilemmas inherent in developing an army model that covers the whole spectrum of capabilities, and these combine with developments in the operational environment that challenge presuppositions about operations as they have been understood and practiced in the West since the end of the Cold War—in particular, command of the commons and the management of battlefield complexity. The time has come for land forces to closely review their place in joint forces arrangements, and in defense policy as a whole. This is one ambition of the concept of the "multi-domain battle" officially adopted by the US Army in December 2017.[166] While the concept is tailored for the American military, it has the advantage of grouping the main operational and strategic challenges facing land forces together under a single term.

The issue of jointness is as old as the development of war across multiple domains. But it was in the 1970s, with the first "offset" strategy, that there developed the idea of using this integration to produce operational value greater than the sum of the effects in each of the domains. In 1982, the Airland Battle doctrine proposed compensating for the inferiority of NATO land forces to the Soviets by using joint maneuvers to exploit American advances in airpower. Applying this model in the Gulf War and subsequent operations gave NATO armies significant superiority throughout the 1990s. But while land forces were used heavily during the 2000s in complex stabilization operations, their potential adversaries drew lessons from past operations, focusing on ways to challenge the command of the commons so necessary to the Western model. Modern opponents—to say nothing of future opponents—exploit this interdependence of the various forces in their own strategies. Such interdependence has been the strength of Western armies, but may now very well be their primary weakness.

Multi-domain battle offers to substitute joint-forces partnerships to this interdependence.[167] Each service supports each other, much as the different branches in combined arms combat in the land domain; this differs from normal joint integration in that, in multi-domain battle, every domain is actually contested. Integration is no longer just a guarantee of military effectiveness, as in the past, but a condition of survival. Land forces, for this part, will no longer be just "consumers" of other forces'

---

166. *Multi-Domain Battle: Evolution of Combined Arms for the 21st Century, 2025-2040*, Washington, D.C.: TRADOC/US Army, December 2017.

167. A. Palazzo and D. P. McClain, "Multi-Domain Battle: A New Concept for Land Forces", *War on the Rocks*, 2016, available at https://warontherocks.com; G. Boutherin, "Un nouveau phénomène conceptuel made in USA: le combat multidomaine", *DSI*, No. 127, January-February 2017, p. 64-9.

support, but contribute to these other domains. The concept can be applied throughout the whole cycle of conflict, which is divided into three stages: competition, armed conflict, and the return to competition.

In the competition phase, which involves rising tensions with the potential enemy, land forces participate in protection operations within the territory, securing parts of it and fighting attempts at physical or electronic intrusion into the information system. They also help counter possible subversive actions by maintaining a presence among the population and, if necessary, by carrying out counter-insurgency operations and providing security assistance to partner countries. Finally, pre-positioned forces contribute to strategic intimidation, deterring conventional attack against its national territory or partner states.[168]

In the armed conflict phase, land forces do not just have the task of defeating enemy ground troops, but of attacking their C4ISR capabilities, carrying out in-depth strikes on their integrated air defense system, their port infrastructure, and their maritime lines of communication. These offensive actions, which benefit the other domains, should be carried out through special operations, electronic warfare and cyber-weapons, indirect medium- and long-range precision artillery, and joint maneuvers deep within enemy positions. The last of these are to be carried out by "semi-independent […] resilient formations", exploiting the "windows of advantage" opened by "convergence" with forces from other domains.[169]

In the final phase, with the end of hostilities and a "return to competition", land forces can play a stabilizing role by counteracting any renewed post-conflict subversion. They also help rebuild their partners' capabilities, contributing to conventional deterrence in the event of a return to armed conflict.[170]

To be sure, the concept of multi-domain battle is still being developed, and must be understood from a specifically American political and bureaucratic context—involving classic inter-service strife and the US Army's desire for new financial room to maneuver after six years of resource cuts. Nonetheless, it is an innovative doctrinal approach, one that provides us with new ways of thinking about redistributing roles in operational environments where the distinction between "supported forces" (traditionally land-based) and "supporting forces" (traditionally naval or air) are no longer valid, with all forces facing similar challenges.

---

168. *Multi-Domain Battle*, *op. cit.*, pp. 29-36.
169. *Ibid.*, pp. 36-45.
170. *Ibid.*, pp. 46-8.

Conclusion

"I want our army to remain an outstanding military power, [...] the premier army in Europe, and the second most powerful in the free world".[171] This was how the French President Emmanuel Macron described the ambitions of his defense policy in August 2017. And rightly so: while there is no doubt that American dominance sets the United States at the head of Western countries, France is not far from claiming second place. Its alter ego across the Channel, the British Army, is closest in capabilities and operational experience, but is currently facing severe budget constraints, in part due to the uncertainties of Brexit.[172] With its economic power and growing political role in Europe, Germany no longer makes any pretense of its desire to increase its military power, but it will take some time for it to overcome political and institutional reluctance and lack of operational experience.

But, as everyone knows, this sort of ranking can be somewhat biased: in 1990, the Iraqi army was described as the "fourth strongest army in the world"; in 1939, many still felt that the French army held first place. And the vague boundaries of the "free world" conveniently exclude many potential competitors. We may feel more modest if we include Algeria's 1,200 main battle tanks, Russia's 2,800 pieces of artillery, or Turkey's 250,000 soldiers, all of which help nuance a flattering, but very incomplete, ranking in its proper perspective.[173]

Despite its vagueness, the question of the "rank" of the French military is particularly important for land forces, and for French defense policy as a whole, as the new law on military programming that adopted an ambitious plan of investment for the next six years, guiding their development capabilities well beyond 2030. In the light of coming developments in the operational environment, which signals improvements in our opponents' abilities and their increased exploitation of battlefield complexity, there are a number of priorities for land forces if they are to retain the strategic relevance they have possessed up to now.

▰ **We must keep in mind the fundamentals of the land domain.**

---

171. E. Macron, "La deuxième armée du monde libre", interview, *Le Point*, August 31, 2017, p. 47.

172. A. Dorman, "The Future of British Defence Policy", *Focus stratégique*, No. 74, Ifri, July 2017.

173. *The Military Balance*, London: International Institute for Strategic Studies, 2017, p. 166, 212, 369.

Because of their operational attachment to the ground, land forces can offer unique persistence and control that cannot be implemented from the commons. Policymakers should bear in mind that only land forces can seize territory, stabilize it, and offer sustainable, in-depth protection to it.

- **We must maintain the strategic functions as a relevance benchmark.** Intervention, deterrence, prevention, protection, and anticipation provide the core framework for an armed force's strategic relevance. Land forces have sometimes been excluded from some of these functions (protection, deterrence, anticipation) and preferred for others (intervention, prevention). We must emphasize the profound complementarity between each of these functions.

- **We must no longer sacrifice quantity to quality.** The age of "sample-based" armies must come to an end as potential adversaries will keep upgrading their forces and lethality, leading to rising attrition rates among friendly forces. After years of homothetic reduction, the French army has only begun to recover, adding 11,000 additional troops. It must continue, giving them modern, suitable equipment, and putting an end to so-called "temporary" gaps in capabilities that undermine operational effectiveness.

- **We must increase self-reliance and resilience.** The growing contestation of the commons will deeply challenge the assumption that joint support will always remain available. Land forces must increase their autonomy in terms of fire support, intelligence, targeting, and mobility, if they are to continue maneuvering when other armed forces are busy defending their superiority in their own domains. And they will need to rethink their resilience and survivability within disputed environments by reinvesting in surface-to-air, cyber, and electronic defenses, and by placing greater emphasis on concealment and deception from the moment the maneuver is conceived.

- **We must move from joint support to mutual partnerships.** Future developments in the operating environment will transform the nature of jointness. Land forces are no longer just consumers of such support: in the future, their effectiveness will depend on their ability to partner with other domains. But the resulting synergies should not be seen as potential substitutes, and should not lead to further reductions in troop numbers: it is from individual autonomy—and therefore a certain redundancy of capabilities, which acts as a security guarantee—that the possibility of cross-domain mutual support will develop. To do so, land forces will need advanced means to carry out in-depth strikes and target acquisition, and closer links with special operation forces and cyber-offensive capabilities.

◤ **We must not lose sight of the human dimension.** As long as there are human beings on the earth, and as long as human activity leads to war, land forces will remain strategically valuable. But they must not yield to the temptation of conceiving their domain solely as physical. Its distinctive character comes from the fact that it is occupied by humans. When troops turn into "submarines", disconnected from the people and political issues around them, they lose their strategic value.

If France's strategic ambitions are to be realized, they need an army that is among the best in the world, in comparison with its partners and especially with its enemies. In this crucial period, which has witnessed the "end of operational comfort", it is more important than ever for the army to maintain its position, and to confirm to everyone its ability to respond to the challenges of the future and the persistent demands of strategic rationale in the physical environment and the human field.[174]

---

174. *Action terrestre future, op. cit.,* p. 14.