



## Combat and distance

military-Earth thinking notebook

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Histoire & stratégie

**To approach the subject of combat in terms of the distance factor is to look at it from the point of view of mobility, the range of weapons, the extent of links and devices, and logistical elongation. The question is therefore very broad. We will attempt to deal with it through a historical and technical approach that will enable us to discern how the combination of distance and precision will challenge the Napoleonic organisations that are still at the heart of our combat systems.**

The first point to be made is the very high stability of the land mobility factor. From the Old Greeks at the beginning of the 20<sup>th</sup> century, it is linked to that of the infantry stages (25 to 30 km per day) and, on the battlefield, the maximum tactical mobility is that of the cavalry formations, at best 20 km/h. The last point has not changed much, as today's armoured vehicles struggle to reach 40 km/h in off-road conditions; as for operational mobility, it is even worse. The French and the Germans entered the war against Russia on almost the same day in 1812 and 1941; the French will be in Moscow on 15 September, the Germans will reach the suburbs in early December. In fact, the difference in performance was not due to instantaneous speeds, but to the capabilities of logistics. If Caesar shot down 360 km in ten days in pursuit of Afranius in Spain, while twenty centuries later the 1st Army <sup>was</sup> <sub>not considering</sub> possible actions more than 120 km from its holding area, it is not possible to do so. It is not that the soldier of the 20th century moved less well than his Roman ancestor, but that his logistics, infinitely heavier, considerably hindered his mobility and strictly limited the scope of his actions.

In this matter, the exceptional performances were on the nomadic side. The scale of their movements and hence of their strategic concepts is exceptional. Encompassing the entire theatre of operations, they do not allow themselves to be polarised by the zones of engagement alone and thus have access to a broad and effective concept of security. Their equestrian technique, combined with their mastery of the double-curved bow, enables them to control the difficult problem of fixation and engagement from a distance as well as possible, so that they will dominate the operational field for nearly twenty

centuries.

The spread of the firearm in the 16th century changed the situation and gave Western infantry back superiority in long-distance combat. Henceforth, it was the combination of joint actions that made it possible to achieve success. We note, above all, the predominant action of fire whose mobility, accuracy and range continues to increase, leading, from the American Civil War, the eviction of cavalry from the battlefield. It was also the time when the railway opened up new possibilities for movements in preparation for action. The railway will facilitate the deployment of concentrations in preparation for battle, but it will have little influence on the tactical action itself. On the other hand, the dimensions of the killing zone increase, forcing the combatant to bury and the devices to stretch. The arrival of automatic weapons and the extension of artillery ranges, along with the increase in the effectiveness of its projectiles, upset not only tactics but also logistics. Henceforth, artillery no longer fired on what it saw but on the presumed coordinates of its objectives. This is an important development, as engagements take place at greater distances, but also a complication as they require increasingly complex coordination and liaison measures. At the same time, consumption is rising at a dizzying rate because, if you don't get a shot on goal, you're shooting a lot on the side.

The question of links has always been a delicate one, and their extension has always been limited to that of land mobility. Chappe's telegraph was a first improvement and the telephone a second, despite the vulnerability of its wires. The development of radio was to be decisive, and much of the effectiveness of German armoured vehicles at the beginning of the Second World War was due to the quality of their transmission system. However, it was not until access to space that the range and, above all, the speed of the links changed radically. From now on, the strategic decision centre can exchange with the tactical decision centre, and the latter with its subordinate pawns, without delay or limitation. In fact, more than range, it is throughput that opens up the most possibilities at a time when information-processing capabilities are taking an extraordinary leap forward. The multiplication of information will be able to be processed under much better conditions than only twenty years ago, and should make it possible to rebalance the relationship between knowledge, understanding and the capacities that have hitherto been almost alone at the origin of action. Obviously, the issues of electronic and computer warfare will take on a new and decisive dimension.

The use of the third dimension increases the scope of interventions, the depth of the battlefield and the ubiquity of actions to such an extent that everyone will now be involved in the battle. Initially, the air weapon, fully integrated with the land forces, multiplies their action in terms of intelligence, fire control and gradually fire support. Quite quickly, the technical requirements and aspirations of the airmen will lead to the autonomy of the air forces. The technical requirements were unavoidable; the aspirations for autonomy in air manoeuvres had much more questionable results. Neither the Germans, the Anglo-Saxons nor the Israelis were able to achieve good operational results with their air assets alone. On the other hand, there can be no question today of launching an operation without the participation and, if possible, superiority of air assets. Their length, power and ability to strike throughout the entire depth of the action zone with a precision that was still lacking some 30 years ago, they decisively strengthen any operational action, provided that the need for a single manoeuvre is never forgotten.

This importance of the third dimension also improves with the appearance of the helicopter and the control of the turbine. It is also amusing to note that this time the land forces are not going to let this means escape and integrate it without recourse to joint manoeuvres. Its exceptional mobility protects it from fixation and gives it the unique ability to chain concentrations and dispersions in such short periods of time that the

reaction of ground fires can be faulty. On the other hand, its vulnerability is very high and prevents it from lasting in high-intensity combat.

In any case, these remote actions, whether artillery or air forces, shared a common weakness: their lack of precision. The gain in long-range fire now greatly affects air-land combat.

The destruction of mobile tactical objects requires a high degree of accuracy in weapons. Until recently, this precision was the preserve of infantry, armoured vehicles and helicopters, whose range of fire had increased, but was only two, exceptionally three, kilometres. It was therefore natural to gather large quantities of these weapons in a strip a few kilometres deep in order to achieve the indispensable effect of destruction. According to Napoleon's strong formula: "In war you had to see each other up close".

Airmen were the first to question this truth by gaining access to the precision of their launches as early as the 1970s, while missiles, firing beyond direct sight, and artillery are today achieving it. In other words, and for land-based means alone, the depth of fire effectiveness will increase from two to twenty kilometres. We will gain a factor of ten in range, which represents a factor of one hundred in terms of the density of the means to be gathered! Well, let's not dream, things never evolve as theoretical calculations might lead us to hope, but, all the same, the change is there and it will have great consequences. As always, the one who has the ability to fight effectively from a distance will prevail over the brave one who is ready to die up close. This means that the density of infantry and armour will drop in favour of multiple weapons firing precisely beyond direct sight, foremost among them artillery and, in the near future, armed drones.

This requirement will be reinforced by improved situational awareness. Undeniable for that of friends, it is also better for that of the enemy without achieving the transparency we had hoped for. In the end, the concentration of means, which has hitherto been essential for manoeuvres, will have to give way to the concentration of effects, as it will now be possible to do so within the framework of the necessary dispersal of assets. In other words, the distances separating tactical objects from the same camp will increase from a hundred metres to a kilometre or even more, which is probably essential for their survival. Thus, not only will the distances from which targets can be effectively engaged increase, but the distances between friendly assets will also increase. Under these conditions, the zones of engagement will expand and merge with the zones of action, forcing the manoeuvre to be managed according to this new criterion, to the detriment of the former axial character around which everything had hitherto been organised. It is also likely that this stretching of the devices in all directions, combined with the ability to fire while rolling, will cause an inevitable overlap between the pawns of the two camps. So our tactical organisations, based on the homothetic variation of means, missions and responsibilities, moving all together in the same direction, integrating the various inter-service functions within them and conceiving safety as a constraint external to the systems, have no doubt experienced this. They will have to give way to a zonal organisation, attached to the field, organising joint action in a collaborative rather than integrated manner, and ensuring the internal safety of the elements involved in their manoeuvre control area. The tactical pawns will continue to advance, retreat, castling and above all fighting, but the regulator of their action will no longer be an executor of their manoeuvre as today's captains still are. The main advantage of this formula will be to bring a little stability to a combat system whose Brownian character will become more and more pronounced. Finally, this zonal organisation of the conduct of the action will be able to create, as necessary, communities of interest adapted to the tactical problems encountered and as fleeting as the latter, thus giving the systems true modularity.

We can also see that the very nature of the tactical link, still today permeated by physical, carnal and fraternal relations, will have to evolve in order to preserve its primordial factor of effectiveness: trust. Trust is based first and foremost on the conviction of belonging to an efficient system that can lead you to success. Maintaining unsuitable structures, outdated combat procedures and equipment out of step with the requirements of future confrontations would ruin confidence in full action and lead to disaster in a much safer way than anticipating a difficult, but also exciting work of adaptation.

Fantastic change authorised by the development of information systems enabling the tactical situation to be disseminated at the lowest level, now shared from the top to the bottom of the action ladder. It is also clear that these upheavals will have an impact on the entire organisational chain as well as the distribution of means and equipment. The current contact weapons will lose part of their destructive role in order to have to apply themselves to serving suitable targets for indirect fire. Somehow, the whole notion of support will change. At the same time, it will have to be admitted that the organization into regiments or battalions, which already has only an organic reality, will have to become a reality. On the one hand, it will have to be replaced by a structure that allows life and training, while preparation for combat will be done by amalgamating perpetually adaptable means, on the other hand. All this will not be achieved without resistance, a change of mentality, experimentation and trial and error of all kinds, but nothing can be done against the imperatives of tactical efficiency which have always, without exception, shaped combat systems and thus military organizations.

From the Bronze Age to the Renaissance, Western armies adopted monolithic organizations in which long-distance combat was marginally effective. During the same period, nomadic mounted archery dominated operational spaces. The advent of the firearm changed the game, but it was not until the dawn of the industrial era that the idea of the army corps was born. It was not until the dawn of the industrial era that the idea of the corps was merged and allowed rapid deployment throughout the entire army, thus establishing the continuity between manoeuvre and battle.

The increase in the productivity of the weapons would then cause the dispersion of the devices at the same time as the requirements of logistics would cause a drop in general mobility despite such important innovations as the steam engine and the

- In addition, coordination measures remained limited due to the low throughput of the transmission systems. Above all, the effective destruction of the adversary's means of combat always required the concentration of means, capable of firing on target, in a band corresponding to the range of the specific weapons.

From now on, the precision of air-land fire, the improvement of tactical situation awareness, and the sharing of this knowledge at all levels will further accentuate the dispersion process because the gathering of tactical objects will become suicidal. Success will be achieved through the concentration of effects, which will be disconnected from the concentration of means due to the achievement of accuracy in firing at great distances beyond direct sight. The springboard for the future manoeuvre will see contact weapons seeking to provoke the concentration of the adversary's means in order to offer them to indirect destructive air/ground and ground/ground fire. The homothetic organisation of combat assets, spaces and missions with an axial penetration objective will probably give way to a control exercise. The manoeuvring areas where nesting will be unavoidable and where safety will be as unpleasant as it is demanding internally.

## Pensées mili-terre

Centre de doctrine et d'enseignement du commandement

Basically, we are going to see a rebalancing of principles to the benefit of the economy of forces thanks to access to true modularity. The concentration of efforts will be based on the concentration of effects and no longer on the concentration of means, while freedom of action will change in nature by making more room for knowledge in order to usefully complement capabilities alone. The combination of distance and precision will upset a bicentenary balance. The great Emperor will have to turn over in his grave.

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