



New technologies, tactics and strategy

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Tactique générale

Françoise Thibaut gives us with her usual strength of conviction a personal vision of the evolution of war over the centuries. Without excluding the possibility of maintaining "classic" or "dematerialized" conflicts (increasingly automated remote strikes), she sees the emergence of a new type of war, "real... soft and silent": digital and computer warfare. New technologies are of course taking an overwhelming place in this evolution, and the last type of war described allows the author to lay the foundations of his concept of "technological appropriation of the adversary".

Theenemy. That's the problem. Subdue him, annihilate him, eliminate him...

The state of war and organized violence is profound, embedded in humanity, yet ambivalent. On the one hand, belonging to an organized society (be it small or large) authorizes its protection by all means; thus the most violent instincts find their fulfillment in chasing an adversary. But on the other hand, the moral barriers set up by this same society inscribe hatred and the deliberate destruction of others in the most total reprobation. This dilemma makes it necessary to organize this irrepressible violence in order to make it acceptable and justified: to accept the murder of others, to surround it with qualities, to make it indispensable, and possibly to magnify it.

This aspect is simplistic, even primary, and is sometimes wrapped in the instinct for revenge. The problem lies elsewhere: how to devastate the other without risk, without destroying oneself? This is where technique, know-how and invention come into play. Human evolution is fuelled by this problem: at the very beginning, as with all species, it is survival that counts; we kill in order to eat, in order to continue to live. Hominids chase after game, and also chase their competitors in the same quest. This is how it starts: survival, food, securing food territory, water, fire and shelter. War is therefore inseparable, from the outset, from the economy. The struggle is bound up with the need to survive, to have the means to survive. Once this has been achieved, one can desire ease, continuity, growth and power: to possess territories and people who will perpetuate this

achievement. Gaston Bachelard described this very well.

Killing the other without risk presupposes technique and know-how. Hand-to-hand combat, the club, the knife? even if it is lengthened by a handle? or the bayonet, it is too dangerous. It's the random "him or me". Even if he is heroic. Comes the idea of distance. Eliminate from afar, that's the idea; bows and arrows, machines to throw stones, fire, sacking, and then "gunpowder" ... What a marvel! You kill from a distance. First awkwardly, slowly, with awkward tools. But it progresses quickly: we go beyond the primary concern of survival. Killing without being killed: that's the technology of warfare. But it's not yet a military technology, which requires administration and organization. However, invention and technology are definitely linked to money: the smarter the war, the more expensive it is. It can therefore only be practised by stable and prosperous groups. We are at a crossroads: no more unorganized barbarian hordes to enter the administration of war. First the Roman Empire, then the limited family principalities. Fernand Braudel beautifully narrated it in "TheMediterranean".

The modern organization of the broad war, other than dynastic, comes late in Europe, yet place of incessant quarrels. It was around 1620 that Maurice de Nassau created the first academy for the training of officers. The French and the Russians completed this approach by adding engineers. Vauban will spend thirty years of his life to improve the techniques of siege and fortifications. Borda is a ballistics specialist, Carnot knows how to distribute his troops according to the terrain, Koutouzov is the best meteorologist. The beginnings of the innovative, and therefore commercial, design of the military company spanned about two centuries with lightning advances that gave rise to a large part of the industrial innovation. It's a paradox, but if we make an inventory of all the material goods, materials, objects, transport that improve the civil life of peoples, almost all come from military innovation (not to mention medical advances). Princes without resources cannot benefit from progress and must resign themselves to defeat unless they are remarkable tacticians. But the more one advances in technical knowledge, the more tactics - the mental art of anticipation, practice and elimination - depend on technical mastery. There is also a proven adage: tactically speaking, "there is always a war of delay".

Another paradox of reality is that war is protective of the labour market, industrialization and trade: it destroys and kills, but provokes war production, mobilizes energies and protects transport, supplies and communications. The prodigious industrial and commercial expansion of the West is due to the incessant fuelling of various conflicts, colonial or so-called pacification conflicts, or conflicts between the Powers. This constant clash maintains a military organization: nowhere outside Europe have armies been so effective. War destroys and rebuilds, decimates and displaces, redistributes goods, people and opportunities for survival. Aleppo is a good example: reduced to ashes, ten times destroyed and rebuilt in 3,000 years, but always present because it is a hub of transit and relations, and therefore always recreated.

In doing so, the princes, and then the political leaders, tried to create a gap between the military authority they created and the civilian population. The special caste of warlords is said to be indispensable, but isolated because it is feared: its heavy hierarchical and bureaucratic organisation protects - if possible - against those who love coups d'état and authoritarian capture. However, the recipe is not guaranteed: Bonaparte, Boulanger, Franco, Pinochet, Hitler and Mussolini, who were self-proclaimed warlords, and so many others, have reinforced mistrust and marginalisation. Let us not mention civilians... However, everyone is aware of the fundamental influence of their military lobby on North American politics... and, more generally, of the weight of advanced research investments in defence budgets.

But we're left with the human struggle on the ground. Everything will change with the separate but concomitant conquests of the sea and the air: these new areas of confrontation will lead to the dematerialization of the struggle, the distancing of the enemy and the development of abstract communications. It doesn't matter from now on whether the poor guys, military or civilian, are nailed to the ground... and leaders are reluctant to send troops to the ground; as for the civilians... let's just say they are an embarrassing burden. But traditional land warfare occupies, feeds information and spirits, and prevents further destruction. The vertigo created by the military use of nuclear energy protects against more totally devastating acts: we now know that the quest for the total elimination of others can lead to the disappearance of all humanity, at least as we know it.

The continuous and renewed flow of modern technology is, moreover, very sensitive to crises and conflicts. Industrial and technical efficiency reduces costs, allows mass production, but requires perfect socio-productive mastery and the co-ordination of the many secondary links, whether human or material: any interruption in the system very quickly transforms efficiency into notorious impotence. The more sophisticated warfare is, the more costly and tactically fragile it is, so only rich and stable authorities can wage it. This is what allows these rich and stable authorities to intervene among the poor (on the pretext of restoring order and possibly democracy). This approach is also very contradictory if one examines the arguments put forward: what is a rogue state? A just war? The humanitarian corridor in fact allows for interference, even clientelism if we consider only the struggle and occupation on the ground.

In fact, now, the innovation and strategies that are emerging from it force us to consider that there are three levels of struggle, dissociated but inseparable:

- The classic war on the ground, with its losses, destruction, massacres, famine, the decay of everything, the pursuit of individuals: this is what we had in the Balkans, what we have in the Middle East with the disasters in Lebanon, then Iraq, the Caliphate, Syria, the monstrous exodus, the endless ruins. Grafted on top of this are very prosperous war economies, massive use of so-called conventional equipment, and prospects for reconstruction and rebuilding (when they exist) for at least fifty years. The magnitude of urban disasters comes from the force and violence of the weapons used. In 1915, men buried themselves because they were unable to fight against the weapons used and were horrified by them. The same spectacle and the same results have been repeated since the end of the 19th century, that is, since the ^{control of} high-powered weapons.
- Dematerialized warfare. Very effective; its well-calibrated tactical use makes it possible to put an end to or at least limit ground confrontations; there is intimidation through the deployment of naval forces, the use of aircraft carriers, submarines and, above all, the repetitive and unparalleled aerial bombardment discovered with the Second World War, the Blitz. Then new bombers came out of the factories, pounding the enemy and putting a definitive end to his ambitions. Whoever presses the button at very high altitude sees nothing of the result, or sometimes sees beautiful explosive flowers. It is "ah! God, war is pretty" with the heroes of the reconquest of a liberating peace.

This system has been perfected with increasingly automated devices, drones and others, or so-called "precision" bombs. This is the case of Syria in recent months. Are very high-

altitude fighters fighters or high-precision watchmakers? Is the robot responsible? In fact, some automated programs are already signalling to humans the indecisive decisions. Are the designers of actions responsible in front of their screens, sheltered in a naval bunker?

We are coming to - well, perhaps - the old unattainable dream: kill without being killed, annihilate without risking one's skin, eliminate in complete safety.

- Finally, there is the "real war": a new war, recent, unexpected for the common man. It ignores the terrain, the dead, the destruction, the looting, the terror; it is the soft and silent war, the war with zero deaths as dreamed of 25 years ago in the staffs: abstract, all numerical, in 0 and 1, of which the ordinary citizen has no conscience and which, at first, does not change anything in his or her life.

A technological, tactical and strategic global confrontation that the military itself cannot face unless it is at the highest level of this ingenious mastery; it is a return to Fermat, to Hilbert's programme, to decidability and above all to Turing's calculable numbers of 1935. Here we are again with COLOSSUS against ENIGMA, the famous ACE (Automatic Computing Engine), but in immense proportions. This gigantic confrontation takes place on a planetary and spatial scale; whoever controls the strategic network and submits the opponent's will win. Torpedoing commercial, financial and banking computer networks is not very complicated; it has already been done. Around the world, a few hundred gifted and gifted people in the service of the Powers are capable of unlocking any system, even the most sophisticated, simply because the human brain has designed it. Another brain of the same level can destroy it or, rather, appropriate it or make it ineffective. Let's not talk about private networks, perfectly ridiculous with their little passwords

The United States has been the king of the world for quite some time, not so much because of its armies, but because of its big "canvases"... of intelligence and injunctions on everything and anything, its monstrous memory stocks, its ability to block or destroy anything that doesn't fit its globalized system of control. That's what they're all about: control. Acting nice, looking good, using Mickey and Coca-Cola, compassion, turning the needy into the obligated... and control. But this beautiful Yankee Eden has recently found a formidable opponent. Russia had lagged far behind in the computer field, before and after the break-up of the Soviet Union. The Yeltsin period in particular; insufficient training; the mass exodus of computer scientists; almost no hardware manufacturing. This gap has gradually been filled; Putin's Russia is now back to its old glory and can now claim to be able to penetrate and bypass North American systems. The recent and serious failures are undeniable proof of this, at the highest level. Let us also mention China, whose potential for action, creation, manufacturing and, above all, investigation is now almost unlimited.

This is a mode of warfare that is as unexpected as it is innovative. Perhaps worrying. There is no longer any need to destroy; all that is required is the technological appropriation of the adversary. Let's wait and see what happens next. It might be interesting and perhaps relegate the unbreakable Kalashnikov to the attic next to the kerosene lamp. There will always be those who love violence, those who love killing. "Killing the other", eliminating him, eliminating what is "different" remains very obsessive in many minds. But the human being is an easy target, little protected. However, if one thinks about a more abstract struggle, never forget that in 1945 von Neumann calculated how high the "bomb" had to explode in order to do maximum damage. On the other hand, a guy without a latticework, on his own, can also produce disasters with a matchbox or a stolen truck.

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