

The Army Fights in Three Dimensions

From the historical point of view, the progressive specialization of the Air Force, especially for what regards air defense, led the other services to develop their own air components. In France, as of the fifties, the Army developed its own aviation, the ALAT¹, in order to fulfill specific missions, particularly linked to its environment and to its service's specific culture.

Today, the very notion of operating within a single and homogeneous environment has become completely erroneous for the Army. The purely land maneuver is replaced by a type of maneuver that necessarily integrates both assets that evolve on and close to the ground. That maneuver is conducted in coherence with all other elements which operate in the third dimension. The technical task of coordinating the means remains of course an Air Force's responsibility.

Within that regulated framework, the Army implements, within the tactical third dimension, weapons systems that are more and more numerous and diversified. Simultaneously it acquires capacities - such as digitization or the MARTHA² system - that enable it to participate in the overall control of all its vectors.

The air-land maneuver gets its consistency from living doctrine and regulation that are put to the test of our frequent deployments. It is fully consistent with joint and multinational maneuvers.

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The Army in the third dimension

The third dimension: a shared space

Airspace has become the environment within which all services operate. As a matter of fact, it is the only one where all components have means that transit through and from which they produce effects. The management of that environment's coordination belongs to the Air Force; however each service keeps the control of its own means which then operate within each of the services' own overall scheme of maneuver.

The Army has **a significant level of expertise in 3D³ coordination** which is federated at COMALAT⁴ level.

The third dimension's land intervening assets

Within that large and complex organization, land forces' combat takes **today a new dimension**. As a matter of fact, in addition to artillery (field and air defense artillery) ammunitions and helicopters⁵, we find now the preprogrammed or remotely controlled UAVs. These systems will be able to work together (UAVs-helicopters or UAVs-artillery), in order to improve the weapons systems' capabilities. The number of UAVs will multiply in the forthcoming years. Some will be implemented by the GTIA's⁶ combined arms commander. Later on, the infantryman might even be equipped with a mini UAV able to collect information about its immediate environment. This is how will be reinforced that close combination of airland means.

Inseparable actors

There are thus more and more Army actors which navigate through the airspace. Simultaneously, the mandatory coordination of the various combat and combat support branches' actions on the ground requires enhanced combined arms training and a combined arms structure for the brigades. In order to be efficient, **"aérocombat"**^{*} has to be the object of daily training.

The Army Chief of Staff has perfectly summarized that approach in the speech he gave (1 February 2007) at the Army Aviation school on the occasion of the "aérocombat" days: **"The second reason for my being keen to maintaining the "aérocombat" capability within the Army is an operational one.** It is easy to understand by those who have an experience of the air-land combat. It is more difficult to understand by those who do not appreciate well enough the complexity of the physical and human environment inside which we move around. The air-land environment is different from all others. It is not homogeneous, it is uncertain and unpredictable: its complexity cannot be reduced to reading the scope of a radar and to remote system-initiated strikes. Today, the prevailing threat originates from the ground and the airspace located in the immediate vicinity of the ground. And, at the difference of a conventional threat, technological means can only detect it at the last moment. When that threat has been detected by the units in contact, opportunities are very volatile since the enemy is most often merged within the population or at close contact

with our troops and they intend to lead us into committing errors. Thus, operational superiority cannot rest on air and ground components' actions that would not be linked together. It is **only a combined and integrated maneuver** that will allow an optimization of the tactical results. In that sort of war, the **tactical linkage** is essential, as I shall demonstrate it later on. **That tactical linkage can only be the result of a common culture, well maintained and practiced on a daily basis; otherwise, it does not exist."**

The integrated maneuver

A three dimensional space of maneuver...

Land forces' freedom of action starts with the capability they have to make use of their means in accordance with their own requirements. That freedom which is undisputed on the ground



might be denied, at least partially or in an indirect way, to those Army capacities operating in the third dimension. **It is thus indispensable that the land component be provided with a volume of airspace specifically dedicated to its operations, in liaison with the authority in charge of theater's airspace management.** That volume, called the air-land zone, is placed under the Army's direct responsibility, with technical coordination being established with the Air Force. Digitization (MARTHA, SIR, SIT, etc.) will provide the combined arms commander with the necessary and adapted tools enabling him to fully control the actions to be conducted within the **"aérocombat"** space of maneuver.

In the "Défense nationale et sécurité collective" magazine of June 2007, Air Brigade General Gelée⁷ takes the example of a land component unit requesting fire support. He then proposes to "allocate an attack helicopters section, an armed UAV or a combat aircraft flight, according to the request's emergency, the need for accuracy and fire power". The Army has a different approach. **It will not consider 3D means as supporting assets only but rather as being fully part of the overall maneuver.** It has thus to integrate all the different means, their capacities and limitations early in the conception phase of the maneuver,

and then to conduct that maneuver under a single command and control organization. In order to do so, the combined arms commander, during the execution phase, will have to either make use of his own means (helicopters today, armed UAVs tomorrow) or to request the Air Force's ones, taking recommendation from his Air Force advisor.

... which imposes the development of common culture and training

Besides, the use of organic means is a part of the army's culture. For many years during peace time, all of the land combat units have got a twinned combat helicopters battalion. Each year, land forces' platoon leaders practice, together with Army aviation crews, the conduct of fire support or air assault actions⁸. During the preparation before deployment, units are regrouped together and get acquainted to the theater's specificities. Combined arms units take full advantage of that phase to further improve their mutual knowledge of helicopter fire support and air assault procedures as well as, and above all, to improve the personal knowledge they have of each other. And finally, upon arrival in the theater, the initial training periods always include a practice of helicopter fire support procedures.

Under these conditions, platoon leaders will find it easy to call for support an aviation section leader they know and with whom they'll implement a complex but well practiced process where mutual trust plays a prevailing role, in a situation that will always be delicate.

What will 3D bring to the combined arms commander?

Complementing the units operating on the ground, airspace offers **the possibility to see and operate rapidly (effect of surprise), far away and with enhanced strength (new generations of helicopters, of UAVs, of artillery ammunition...)** thanks to platforms which are freed from the ground constraints. The combined arms commander's initiative is thus increased, especially in the current conflicts' discontinuous battlefields. The airspace offers also **a reaction capacity** as well as **a permanent reversibility capability during the course of the action.**

The combined arms commander should also take advantage of the third dimension's contribution capabilities in other domains. On the one hand, the lower tactical echelons will more and more benefit from that contribution thanks to the accuracy of the effects, to the miniaturization of the aerial platforms and, in the longer term, to a larger number of UAVs available. On the other hand, the operations' new conditions require that third dimension's actors intervene to control the ground physical and human environment (contact intelligence collection, counter IED operations, ...) And last, it is the enlargement of the spaces to be controlled which gives an increased importance to the vectors that operate in the third dimension. The reduction of the number of personnel that

imposes an enhanced tactical mobility and a centralization of the reserves increases thus the need for integrated airmobile assets.

An adaptation to the current constraints

Managing in accordance with the endeavored actions and not in accordance with the environment

In the third dimension like in any other space of maneuver, the operational efficiency relies on the **sound conception of the systems of forces' action**, which should be linked to the effects to be achieved and not to the environment - aerial, land or maritime - within which the forces will have to operate. A logic which would merge together all the actions that take place within the air space would rely on a spatial conception of forces employment. The acceptance by all of the fact that the logic of forces employment prevails over the one of environment management seems to be a prerequisite for a real improvement of joint coordination.

Consequently, the fundamental distinction is actually between tactical conception - which goes beyond the mere notion of environment - and coordination, a technical activity, which is essentially linked to the environment.

Tactical command and tactical co-ordination

Tactical co-ordination sometimes prevails over tactical command, although co-ordination should only be a tool that provides better conditions for command and control. A comparison with the civilian world can illustrate that notion. DGAC⁹ is in charge of airspace management. That vast responsibility enables it to respond to the commercial expectations of many private air travel companies which develop their own strategies while respecting the DGAC established framework and procedures, but keeping however an entire autonomy for what regards their choices and decisions.

Similarly, within the military operational framework, **the co-ordination of the means** that transit within the third dimension must respect the framework of employment regulations, that are applied by all users, but which **should however not compete with each service's command organization**. The establishment of a delegation for a domain of co-ordination responds to that expectation.

NATO and the other nations

On a larger scale, France must use, as a basis, the NATO regulations which describe air operations planning as well as their coordination. Indeed that co-ordination which is consistent with NATO standards and joint doctrine doesn't imply that all of the operational elements that operate above the ground should be controlled by the same hands. The study of other national armed forces demonstrates the opposite. All of the major NATO nations have strong army aviations whose existence is never put into question. This is illustrated by the United States, by the United Kingdom which has recently integrated the utility/assault helicopters units into the Land Command, not to mention Germany which, in order to support



ADC Olivier DUBOIS/SIRPA Terre

its land maneuver, has just created an airmobile division which is comprised of two brigades. It is also the multiplication of the number of actors involved that has led these nations to develop **adapted co-ordination means that allow a co-ordinated maneuver of the actions.**

1 ALAT : Aviation légère de l'armée de terre (Army Aviation).

2 Operations mobile control center that ensures tactical command and control of all army assets operating in the third dimension.

3 3D: the three dimensions, or related to the three dimensions.

4 Army Aviation Command.

5 One could also add to that list the HAHO (High Altitude High Opening) parachutists who can be dropped at a high altitude and then they open their parachutes as high as 4 000 m at a distance of several tens of kilometers from their objective.

6 Combined Arms (Battalion) Task Force.

7 Director of the Air Force airspace strategic studies center (Centre d'études stratégiques aérospatiales (CESA)).

8 Based upon the doctrine document titled "ALAT 805/OPS. Notice d'emploi appui feu ALAT au contact n°564/DEF/CDEF/DEO (Fire Support employment of Army Aviation in contact)" dated 22 July 2005.

9 DGAC : Direction générale de l'aviation civile (Corresponds to the Federal Aviation Administration).

* **"Aérocombat"** is the co-ordinated and integrated maneuver of tactical level units operating on the ground and in an air-space close to the ground, under the direct responsibility of the Force's Land Component Commander.

In addition to ground units, **"Aérocombat"** addresses all the aircraft and delivery vehicles that transition across this dedicated air-space, especially helicopters, drones and artillery ammunitions; it is conducted in close coordination with the Air Component Command.

The multiplication and diversification of the actors operating in the third dimension made it necessary to study their co-ordination.

Today, all operations are conducted jointly, which doesn't mean that each of the services should lose its specificities. It is the contrary; however a service cannot operate alone within a given environment and it must thus call upon the other services' capabilities in order to reach the desired end-state. Keeping it in mind, the distinction between tactical command and tactical co-ordination becomes of prime importance.

The combined arms commander must be able to conceive his maneuver, integrating in it, from the outset, all of the land forces' means, including those operating in the third dimension.

Thanks to MARTHA, the Army develops a capacity enabling it to conduct an integrated type of maneuver, called "*aérocombat*", within its area of responsibility, that maneuver having been defined early during the joint conception phase.

The third dimension in the Army: an expertise that is entrusted to the Army Aviation Command (COMALAT).

COMALAT has been officially designated by the Army Chief of Staff to be the Army 3D expert.*

That expertise applies to the Army but also to the relations with the Armed Forces Joint Staff (EMA) and the other services.

Under the Army Deputy Chief of Staff's authority, and in relation with Land Forces Command and the Forces Employment Doctrine Center, COMALAT is responsible for the 3D domain's coherence. He focuses especially his attention on the regulations and doctrines associated to that domain. He is also the Army representative for all joint or inter-ministerial studies dealing with the third dimension.

* Letter N°32/DEF/EMAT/MGAT/EPF/COORD-ALAT dated 25 June 2007.