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THE ROLE OF THE AIRMOBILITY
IN THE POST NUCLEAR EUROPEAN BATTLE FIELD

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THE ROLE OF THE LAND FORCES AIRMOBILITY IN THE POST NUCLEAR
EUROPEAN BATTLE-FIELD

- Emidio VALENTE, Italian Army Aviation Colonel (Rtd) -

A B S T R A C T

PREMISE

The changing operational scenario after the "zero-zero option".

The nuclear response against the enemy superiority really was a revolutionary method outside of the classic principles of the war: manouver - mass - surprise.

Now the operations must stay again within these principles: more agile and faster defensive manouver against aggressive manouver; more flexible and reactive mass against superior hostile mass; unrestricted defensive surprise against limited enemy surprise.

The western concern how to balance the lost of the theater nuclear reaction capability seems to be limited to the only solution of increasing the strenght through conventional ways.

How can we define the conventional solution? How can we increase the operational effectiveness of the conventional forces, possibly with the minimum augmentation of the force level, having in mind the budget restrains and the hostility of the public opinion against the military expenditures, mainly in this time of distension?

In any case the improvement of effectiveness would depend on numerical factors ("three M factors"): money, men, means, that are the same factors that allow the enemy superiority.

Why not looking for a more convenient "unconventional" solution?

THE AIRMOBILITY AS THE UNCONVENTIONAL RESPONSE TO THE POST NUCLEAR EXIGENCIES

Do you really know what the airmobility means, what can be or what could be?

Airmobility: apparently a well known concept without a fully exploited implementation.

In the recent past, it was often stressed the difference of airmobile resources (i.e. helicopters) between USA and PW forces from one side and European forces from the other side.

But not only numbers make the difference; it is necessary to acquire an airmobile mentality and possibly to reconfigure the land units in airmobile sense.

Cost/effectiveness considerations.

Approaching the solution through operational research methods.

Target: increasing the overall strength reducing the dimensions and, why not? the cost.

Facing new problems: the airmobility management over the battle-field; increasing availability, reliability, effectiveness; reducing maintenance and complexity of operations; new logistic concept:

THE AIRCRAFT. The helicopter will remain the back bone of the airmobility. The basic essential performance.

Guide lines for determining the best configuration of the future flight lines.

Requirements to be met: battle-field support; fire; tactical/Logistic transport.

For reducing the diversity of the flight lines the requirements must be better understood. What exactly means "battle field support", "fire", "transport".

Present trend: no harmonized concepts, contrasting programs, lacking of rationalization, standardization, interoperability.

Is there hope for an European airmobile solution?

THE ROLE OF THE LAND FORCES AIRMOBILITY IN THE POST NUCLEAR
EUROPEAN BATTLE FIELD.

Emidio VALENTE, Italian Army Aviation Colonel (Rtd)

PREMISE

First of all I call your attention on the title of my paper - "The role of the Land Forces airmobility in the post-nuclear European battle-field" - that evidently was suggested to me after the signature of the INF treaty, taking into account the considerations expressed by many military and political experts about the possible dramatic changes of the operational scenario as a consequence of the so called "zero-zero option".

We don't know if and when other steps will follow towards the total elimination of the nuclear armament. However we must admit that only the nuclear threat has avoided until now the deflagration of the third world war. On the other hand, I don't think that it could be possible to forget the serious memento expressed by Mr. Winston Churchill, on 1952, before the joint session of the U.S. Congress: "Be careful above all things, not to let go of the atomic weapon until you are sure and more than sure, that other means of preserving the peace are in your hands".

Nevertheless, moral considerations seem now to require of surpassing the aberrant logic of the mutual assured destruction, but until the war remains a tragic possible perspective for solving problems between nations of blocks of nations, "other means of preserving the peace" are necessary.

In any case, although we are very far from a real post-nuclear situation, the guide-line for redressing the imbalance between NATO and Warsaw Pact is characterized by the adjective "conventional" opposed to the "unconventional" solution given by the availability of atomic weapons at any level of the flexible response of the NATO doctrine.

So the INF treaty raises awareness of the importance of the NATO conventional forces for maintaining a conventional defense strong enough to oppose any aggressive thrust into NATO territory.

But, in "conventional terms" and mainly as far as the ground forces are concerned, that means to raise also the importance of the classic war principles, well defined by Von Clausewitz, manouver-mass-surprise. Certainly this General was not able to figurate that, one day, a single weapon would have had the capability to revolutionize these principles at the point to

render appropriate the definition of "unconventional" applied to the modern battle-field.

In fact, the nuclear weapons, apart their deterrence and dissuasion potential, have the capability of drastically and immediately changing the force ratio over the battle-field. But, in a not nuclear scenario, without this, let's say, "disturbing factor", the eternal principles must acquire again their fundamental role but in a new dimensional and qualitative frame, particularly from the defensive side of the conflict.

In fact, when the potential aggressor is credited of a total numerical superiority, also characterized by an updated qualitative level, the manouver must be extremely agile, fast, unrestricted for realizing, by surprise, the necessary force concentration at the right point and at the right time for delaying, stopping, destroying the advancing enemy forces.

If the nuclear compensation factor is loosing its importance in tactical and strategic terms, for redressing the imbalance between NATO and PW forces, it is necessary a conventional capability strong enough to frustrate aggression and increase the time before nuclear escalation would have to occur.

But how may we define a conventional solution?

The present conventional panoplia of the ground forces armament includes men, gun, tanks, means for the mobility and what ever is considered necessary and sufficient, taking into account the compensation factor given by the nuclear weapons.

Consequently, the conventional solution simply means to increase the number of each item according to an aberrant escalation logic that would fix the satisfactory level at the same level of the adversary forces.

May we match the Warsaw Pact man for man, tank for tank, aircraft for aircraft?

This simplicistic solution is absolutely out of realistic perspective because it would depend on the so called "three M factors", MONEY-MEN-MEANS, that is the same numerical factors on which the enemy superiority is relying, but that are practically forbidden in the Western environment, where the limitation of the resources to be allocated to the defense budgets do not only depend on real economic problems, but also and mainly of the hostility of the public opinion against the military expenditures, particularly in these days of apparent distension between USA and Soviet Union.

So other ways, other solutions must be identified for reaching acceptable and satisfactory results, after a careful examination of the NATO critical areas of deficiency in order to define the guide-lines of the defensive concept of the Alliance.

The conventional defence improvement represents a new momentum of the military aspect of the Alliance and must be studied in a Conventional Defense Improvement Initiative according a planning

method to ensure that the necessarily limited national resources contribute most effectively to the common objective.

It is not here my intention or possibility to provide a total solution for this dramatic problem.

However I would try to identify at least one area of the present inadequacies where an unconventional approach could indicate the possibility of sensible and concrete results.

I realize that the experts of each branch of the Ground Forces are now engaged in the effort to demonstrate that increasing or improving their sectors the benefits would be higher than dedicating the resources to other areas. I want not make the same mistake: my recipee is not a panacea but something that at the present time , at least among the European partners of the NATO, has not yet the due aknowledgement and that should be in any case improved also for the today exigencies, but that could be a very important factor for improving the conventional Defence.

I'm referring to the

AIRMOBILITY OF THE GROUND FORCES AS AN UNCONVENTIONAL RESPONSE TO THE POST-NUCLEAR EXIGENCIES.

For those who are not familiar with the real meaning of the expression "Ground Forces airmobility", I wish to explain that this type of mobility is not referred to the transport by air of men and materials of the army, using own or other Forces aircraft, but it is a new operational concept that allows the Army of performing by air tactical-logistic missions directly employing adequate aircraft, or as integrated support of actions conducted by land units, or in autonomous operations cohordinated into the general planning.

Evidently, not being limited by the terrain in their freedom of action, the Ground Forces can acquire practically unlimited capabilities of applying the already mentioned classical war principles, manouever - mass - surprise, with unusual level of operational effectiveness.

Only listing the possible applications of the airmobile concept to the land operations, it appears evident the enormous potential for changing the traditional, let's say better, conventional schematics of the ground actions.

Airmobility infact means to perform by air:

- information,
- battle-field control,
- liaison,
- fire support,
- tactical and logistic transport,

with the possibility to use these functions or in direct and integrated support of the units, or in indipendent actions, defined airmobile operations.

In other words, a fully integrated airmobility provides the land forces with the main characteristic for facing all the possible dynamics of the modern battle-field, when it is not possible to acquire the same force level of the enemy, in numerical terms, when the technological sophistication of the armaments, that is a higher quality, is not enough for countering a threat coming from many directions.

I think that the main defensive potential of the NATO Ground Forces shall rely on the flexibility, at the highest possible level, of the tactical reserves.

Let me take some concepts from an article recently written by the former Commander of the Northern Army Group, General Sir Martin Farndale.

".....I'm assuming an enemy who has started the war and who therefore starts with the initiative and possibly with the same degree of surprise. The defender will certainly not know the attacker's plan nor his point of main effort.....".

Thus powerful reserves are necessary that - again from Gen. Farndale concept - "will include powerful helicopter forces of two types. First, attack helicopters in large numbers whose task is to destroy enemy armor by offensive actions on a large scale in co-operation with tanks and artillery.

Second, are airmobile formations designed to help in stabilizing the battle by counter-penetrations, by seizing obstacle crossing ahead of the counter action forces or even to lead the attack to achieve surprise, to create paralysis and chaos as the main attack closes."

I'm sure you are realizing that these potential capabilities offered by the airmobility are not secondary or optional support to the ground forces operations, but, at least in the majority of the circumstances, they can represent the back bone of the Defence concept.

As a consequence the NATO Armies should have developed at the maximum extent the practical application of the concept it self, in terms of operational doctrine, airmobile units and - of course - of number of means necessary for transferring into reality this potential.

Unfortunately, the present situation in the NATO environment does not show a satisfactory level of implementation of the concept. In a recent past, and also in this Forum, it was often stressed the unacceptable difference existing among the NATO partners in terms of number of helicopters. Incidentally, I wish anticipate that this aircraft is the only eligible mean that allowed the airmobility to become an operational concept able to drastically change, if not revolutionize, the procedures, the speed, the flexibility of the ground operations.

Only considering the ratio between helicopters and men - although this is not totally valid comparison - we realize that the US

Army may account on 14 helicopters for 1000 man, against a ratio ranging from almost 4 to almost 2 in the European NATO Armies!. All that while - on the PW side - the helicopter has become another very warring element of the present general superiority of the conventional armaments.

But numbers alone do not clearly demonstrate the difference between the various airmobile structures. In fact, a limited number of aircraft does not mean a different level of airmobility, but simply represents the impossibility to practically implement the concept, that is the capability to perform by air duties, missions, complete operations as a more effective alternative, or the only alternative to conventional procedures.

A limited number of helicopters means to maintain them at an auxiliary, secondary, not essential role, and the Commanders must rely on the conventional ground units only. What is necessary now is a total change of mentality, considering the possibility to reconfigure the land forces according to a real airmobile concept. For making clear my proposition, I would envisage - as an example - an airmobile brigade in each division, where each man has his place on board of an helicopter, where attack or anti-tank helicopters represent the core of the offensive strength of the unit.

I see also reconnaissance units at Corps level, together with helitransport units having adequate dimensions for allowing the movement of reserves at least at battalion level in one sortee. I'm sure that in most cases, the situation will not leave the Commanders free of choosing between a normal, conventional reaction and an airmobile reaction. This is the point: to be or not to be airmobile - let me adapt the Shakespear's concept! - or, in other words, to be or not to be able to face the continuous changing operational scenario. Of course, although my confidence on the airmobility potential, I cannot think that a dramatic change of the ground unit configuration, in airmobile sense, could occur without serious and deep cost/effectiveness considerations.

Now the NATO headquarters must study the most convenient way for improving the conventional defence, taking into account the unavoidable difficulties of getting the necessary increase of resources in terms of men and money. Could it be possible to increase the overall strengths and operational effectiveness, without a significant augmentation of the force level? If we assume as reference line the airmobility level of the US Army, it should be possible, through simulation, operational research methods and field exercises to determine the difference in potential between a conventional improvement of the defense and an unconventional solution, where "conventional" means only more men, more tanks, a limited increase of aircraft, and "unconventional" means a deep change of the land forces

configuration in airmobile sense.

I cannot anticipate the results of such studies, but my feeling - my faith - is that it could be demonstrated the validity of my assumptions not only in terms of improvement of the general operational effectiveness, but also in economical terms and in reduction of human resources.

Certainly, an almost totally new configuration of the ground forces, where the airmobile assets would be four or five times larger than presently (having in mind the US Army levels), could not be acquired from a day to another, considering the number of new problems to deal with, starting from the management and control of a much larger number of aircraft over the battle-field, to the technical-logistic-training aspects. In the reality these are not new problems, but problems with new dimensions requiring a timely updating of their parameters.

Management and control: it is part of a general NATO problem that shall have the due consideration in the NATO Conventional Defense Improvement Initiative. However the solution can already be envisaged through the ongoing programs in many NATO Countries; among them I wish to indicate the CATRIN program of the Italian Army, in which the airmobility management is properly considered.

Technical aspects: if the aircraft shall become a basic mean for improving the operational effectiveness of the Ground Forces, all the parameters of the RAM concepts must be reconsidered in order to guarantee the level of the operational effectiveness itself, maintaining the number of aircraft at the minimum possible level, reducing the logistic support in terms of spares, inspections and ease of maintenance and repair. In other words, a new logistic concept is necessary, essentially based on less exigencies from the aircraft (materials-design) and on integrated logistic support that could become part of the general airmobility management system.

Training: the larger number of aircraft with the consequent increased number of pilots and specialists, the complexity of the machines (although efforts must be made for reaching acceptable level of simplicity of operation!), the limitation of the training areas, the problem of coordination with the Army and the Air Force units, in a not unlimited air space, the flexibility of the tactical employment according to a continuous change of the operational scenario, are all aspects of a general training problem that can find the solution in the extensive application of the Computerized Training Concept with the normal use of the simulation.

When I try to compete with my nine years old grand-daughter at some video-game, I'm regularly loser!. That gives me the confidence that the new generations will provide the supermen and the supergirls necessary for managing the new training and

operational problems connected to the more extensive application of the airmobility.

THE AIRCRAFT

And now - last but not least - let's discuss of the machines necessary for translating into reality the airmobility concept. Last year, at the ARLES FORUM, I presented a paper about the military employment of the convertible rotorcraft, the convertiplane.

The Chairman of my Session was my old and unforgettable friend Paolo Bellavita and he was happy, at the end of my lecture, to realize that I was not a member of HDP, "Helicopter De Profundis Association", that is one of those considering the helicopter more or less at the end of its operational life, while all its capabilities seem to be better provided by tilt-rotor aircraft, together with much higher speed and range performance.

We must recognize that the dream to combine the performance of the helicopter and the airplane is now a reality, considering how close is the first flight of the V22 that will be certainly followed by other successful initiatives in the European environment.

But, all considered, in the wide spectrum of the military applications of the conventional helicopter, only a limited sector will offer the conditions for a cost/effective employment of a tilt-rotor aircraft.

This appears to be particularly true in the airmobility field, considering that the airmobile support within the operational area of the ground units does not allow to fully exploit the particular capabilities of the convertiplane.

On the other hand, the helicopter has not yet reached its maximum development level and we may be optimistic if we consider the improvement trend from one generation to another.

If the airmobility, that is the helicopter, may represent one of the most important way for improving the conventional defense, the process for passing from the present situation to an airmobile era of the Ground Forces, should follow rationalized guide-lines not only in each Country but also at least into the European sector of the NATO Alliance.

Of course, the solution should be a complete standardization of the NATO Forces, but I realize that there are limits also in dreaming!.

Very often it has been repeated that one of the most important concepts for making strong an integrated military Alliance, should be the standardization of the armaments. In the NATO it was also invented something like a motto for stressing this aspect: RSI: Rationalization, Standardization, Interoperability.

I want not express here my criticism about the implementation of this concept. But, referring to the helicopter field, the European situation seems to be very far from an acceptable level of standardization!

Looking at the future, we must accept that for at least ten or fifteen years there will be not a practical possibility of reaching an acceptable level of standardization either in the implementation of the airmobility concept and in the replacement of aging helicopters or in the introduction of new types.

But this time should allow the confrontation of the concepts, the harmonization of the programs, coherently with the new steps forwards the construction of an united Europe.

If a good willing will be demonstrated along this processus, I presume that one of the first steps should be the identification of the requirements to be satisfied by a more extensive implementation of the airmobility concept, in the aim to reduce the types of aircraft, to start new collaborative programs and to recognize in some on-going programs the potential to meet common requirements.

Let's start from the requirements, having in mind the essential functions of the airmobility.

I think we may regroup them as follows:

- a basic airmobile battle-field support, including command and control, liaison, light transport, possible contribution to the information and fire support exploiting the inherent operational flexibility of the helicopter;
- a specialized fire support mainly anti-tank but with also alternate capability of counter enemy airmobility (air-to-air/anti-helicopter);
- tactical-logistic transport in the most cost/effective application of the concept, taking into account the real exgencies of the European battle-field, where the main requirement shall be the reseves transport and the logistic support, more than to performing small scale airmobile operations.

Evidently, if we could be able to satisfy these requirements with only three types of aircraft, the benefits in terms of economics and rationalization would be very important.

May we now identify the trends in this armament sector?

Before to look at the European perspectives, let's examine what the US Army is planning now having, as a target, the complete modernization of the helicopter fleet around the beginning of the next century.

From the current seven types of aircraft - OH-58, AH-1 COBRA, UH-1, UH-60, AH-64, CH-47 - the future flight line will

comprehend:

- a number of transformed OH-58 in D model for scout missions
- a multi mission relatively light helicopter capable of performing armed reconnaissance, air-to-air combat and attack ground targets (LHX)
- a heavy attack helicopter whose primary mission is the destruction of enemy armour in close, deep and rear operations (AH-64)
- a helicopter for air assault and air movement (UH-60 Black Hawk)
- a cargo helicopter used primarily as a mean of transporting personnel, weapons, ammunition, equipment and other cargo in general support of combat (CH-47 D Chinok).

Of course this evolution is based on the current situation that already enjoys of two modern helicopters (the Black Hawk and the Apache), while two deep transformation and modernization programs allow a long life extension of two other aircraft (OH-58 D and Chinok).

The rest will rely on the LHX program that shall replace thousands of aging OH-58 and AH-1.

The orientations in Europe seem to follow different lines both in respect of the US programs and among the European partners themselves.

For the basic support there is a NATO study about a future "battle-field helicopter" whose weight could range from 3 to 4 tons without a short terms cooperative program.

Some cooperative programs are in process, in bilateral or quadrilateral form, but none of them can be defined as a common European program:

France, Italy, the Netherland and Western Germany are still little more than in preliminary phases of the NH-90, an 8 ton aircraft that shall provide tactical transport capability replacing PUMA and UH-1;

Italy, UK, the Netherland and Spain are envisaging to develop a common light anti-tank helicopter, derived from the A-129 of the Italian Army, that will enter service this year. This aircraft has since today the potential to be considered a real multimission light combat helicopter, according to the concept defined by the US Army for the LHX program, thus a machine particularly suitable for meeting the European requirements in very attractive cost/effective terms;

France and Germany have agreed to develop a common medium anti-tank/support-protection helicopter;

UK and Italy have developed a medium heavy helicopter for replacing the Sea King and the HH.3F of their Navies. By the initiative of the Industries, transport variants of this helicopter have been developed for other military and civil requirements.

As you can see the panorama is not very encouraging in standardization terms and, if something will not happen in the next future for modifying this situation and this trend, at the end of the century a common airmobility concept will be out of the Western Europe Union.

This about the types of the helicopters, without mentioning the negative aspects of an industrial competition not controlled by the Governments in view of superior, political, military and also industrial interests.

About the quantity aspects of the future European land forces airmobility, other reasons of disappointment arise considering that the ongoing programs seem to be mainly oriented towards the replacement of the old aircraft with only a marginal increase of the number.

Among the European Countries I can indicate now only Italy and UK which seem to have already defined the evolution of their helicopters lines.

Italy, within the A.129 program, will satisfy three requirements:

- anti-tank
- reconnaissance
- battle-field support.

For the tactical transport, the participation to the NH-90 program demonstrates the orientation to replace the AB-205 by this helicopters if the program will proceed successfully.

For the medium transport, the EH.101 has been already designated for replacing the CH.47, with the possibility to anticipate the introduction of the aircraft for increasing the present transport capability.

In recent symposium on airmobility, held at Salisbury on 14th September, the British Army has demonstrated both the confidence they have on the airmobility as an essential factor of the land forces effectiveness, and the direction along which they will move for rationalizing the flight lines. Practically, in future, all requirements should be met with only three helicopters:

- a battle-field helicopter, starting with the LINX reconfiguration to its original role;
- a light attack helicopter, hopefully derived from the

italian A.129;

- a medium transport helicopter, initially CH.47 and EH.101 until a future total replacement of the chinooks by the last one.

I would like that among this audience there be some opinion leaders and decision makers in order to stress the importance of the airmobility in the conventional forces improvement initiative, applying a concept that could be defined unconventional, if we provide the land forces with a real tri-dimensional capability, possible with higher potential in the third dimension than on the surface.

We hope that the present peace initiatives be sincere and that can allow a long period in which the war be only a bad souvenir.

However the old latin proverb must not be forgotten: "Si vis pacem para bellum".

And in the unavoidable implementation of the concept, we must remember that the helicopter is an aircraft that has demonstrated its validity also in peace time.

I wish conclude this presentation with an exhortation to the Authorities responsible of studying how to improve the land forces effectiveness:

BE UNCONVENTIONAL

THINK AIRMOBILE