FORCE PROTECTION

DOCTRINE
Force Protection, the Global Dimension of the Commitment

FOREIGN STUDIES
The German Army’s Force Protection Philosophy

FREEDOM OF SPEECH

GENERAL WILLIAM S. WALLACE
US ARMY presents the new FM 3-0

FORCE PROTECTION

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## Doctrine

### “Officers are publishing”:

- **The Modern War** According to Colonel TRINQUIER  
- **Counter-insurgency Warfare - Theory and Practice**

## Bibliography

Main Abbreviations and Acronyms

**Foreign studies**

- The German Army’s Force Protection Philosophy  
- Force Protection in Joint Operations - The British Perspective  
- Force Protection as Part of the Spanish Security Concept  
- FM 3-10 Protection - New Doctrine for the US Army
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Resetting the Capstone of Army Doctrine
The new conditions of operations made protection come up as a key dimension of efficiency. Paradoxically, when war was conceived only in the view of a paroxysmal confrontation of blocks, force protection displayed a less sensitive feature. For two reasons. The first one is that our vision of war was primarily this of an absolute war for vital interests. We felt, under the pregnant hold of Clausewitz’ thoughts, that it justified and inexorably assumed mass losses. The second one is that protection insufficiency only amended the less important dimension of military action, i.e. its operational efficiency.

But circumstances dramatically changed and with them, the importance of protection. Should it confirm its impact on the technical efficiency of the armed forces, it becomes in addition a condition of the freedom of action of governments. These should remain capable to act in crisis, not only in today’s one but also in tomorrow’s. In the same way as likely war found back a political substance that had become shaded off, force protection takes today a really political dimension. Protection finds then a new status between “the means” and “the end”; it shows a new complexity because, bypassing the passive aspect that characterized it for long, it now appears as the convergence of active and passive, direct and indirect measures.

Force protection becomes a political stake because it is the condition to political freedom of action. It is enough to remind here the withdrawals of US and French contingents after Beirut deadly attacks suffered in 1983, or the withdrawal of US Forces from Somalia ten years later, after “Blackhawk down”. In commitments not perceived as vital, the political freedom of action - today but tomorrow as well - from now on goes through force protection. Besides that, as we are no longer in the assumption of a sole and massive commitment - the “all-in” of the poker player - it is indispensable to preserve the force for its employment in future crisis that will obviously occur in succession. Likely wars are waged with forces that cannot be consumed. The use of force should be designed under the constraint of its imperative conservation - subsequently of its imperative protection - as they are the same forces and the same equipment, scarce and expensive, coming from a non-renewable envelope, which are successively engaged on various theaters of operation. This is truer now as forward defense leads to a number of engagements, always long and overlapping each other; western forces cannot bear significant losses. These requirements are deeply changing our warfighting modes; we no longer use force whatever its cost is to achieve the goal - what was the Cold War philosophy because we were in an absolute conflict -, but we use methods enabling us to preserve the force.

At tactical level, in current crisis, protection remains an efficiency stake. The aim is indeed to act first through proximity, among populations, looking for contact and violence de-escalation. For simple reasons of credibility and confidence, the force should be capable to protect itself, because if it is not capable of it, the population has no reason to believe that if it sticks to the project supported by the force, it will be itself protected from the Other. If the force "loses face", the force loses credit and with it the intervention project; therefore, should it “attack” or it “be attacked”, the force should "win".

Obviously, a permanent antagonism remains between the force and its capability to achieve the mission at contact. If it is adequately protected, the force may go in for intermingling without being obliged to respond to violence by increasing violence, but, in the same time, measures of physical protection isolate the soldier from the population which perceives him as an "Other"! By reducing the footprint, the visual presence quickly perceived as oppressive, risks and need for protection decrease correspondingly. But the transformation in depth of local situations requires conversely to be at contact by numbers. The poorly protected force entrenches itself, cuts itself off, does not understand anymore; it quickly falls in a spiral of inefficiency or of violence, both of them being frequently mixed together by the way. Once more, the impact of losses is immediate: to get convinced of it, we have just to observe the change in UNIFIL behavior after the terrorist attack that took the lives of six soldiers from Spanish armed forces in the month of June 2007. We can report here the deeply paradoxical feature of protection: tactical efficiency presupposes protection but excess in protection damages efficiency. The challenge to meet is that, if protection should be looked for through convergent approaches, it should avoid to jeopardize the force efficiency because such efficiency is itself a protection component.
The improvement of the armor is however indispensable. For long, it will go through thickness increase. This will result in an increase of the vehicle fleet heaviness. The Brits subsequently consider that by the end of 2007, the average weight of their car park will significantly increase. The dream about multi-purpose combat vehicles in the range of 20 tons is really over. We now know that for a combat platform to survive on the real battlefield, its weight cannot be much less than 30 tons. We can no longer barter protection against urgent strategic deployment ability. By the way, we understood that such deployment ability should efficiently relate only to a small part of the deployable force.

Paradoxical feature and complexity!
This eliminates simple solutions and states protection as a resultant, an effect achieved at the convergence of various actions, an overall concept. The mere passive protection is useless; its bypassing will stay possible as it is true that the cannonball always ends up by winning over the armor1 (the evolution of improvised explosive devices demonstrates it clearly) and that the best technological ideas also include perverse effects: such as the effects of reactive armor on accompanying infantry or jamming equipment on other pieces of equipment. These limits of the passive way should not prevent us to adjust our vehicles deployed on the theaters and build micro-stocks of vehicles adequate for the specific threats of a commitment.

The limits of passive protection are however leading us to an obvious fact: the “active” approach should be privileged as the one which goes by the threat decreasing and therefore a comprehensive maneuver and general tactics. Protection as safety generally speaking is a comprehensive resultant, in its various dimensions (man, convoys, settlements ...), against the various threats (improvised explosive devices, third dimension, rudimentary chemical bombs...), considering various families of responses (active and passive, direct and indirect, preventive and pro-active), in its various fields (doctrine, equipment, education and training), using various technical tools (general intelligence, early detection, immediate detection, robotics...). Protection requires adaptation, if possible, at the same pace as in the counter-adaptations of the Other.

The conditions of realizing such adaptation, obviously reactive, should respond to the fundamental question of the risk that we are prepared to put on our own troops and the duration we consent to. In this area, the political and military hierarchy is really in a rationale of responsibility of results and not of resources.

The experience of the last fifteen years of commitments clearly shows us also clearly that number is a factor of protection by itself. It enables the understanding of environments and their control; it has a direct effect on the behaviors of our forces as well as on their opponents. In this respect, even if reducing the footprint on the ground should be looked for and - through the use of the tactical third dimension - the one of land convoys too, deploying a low-numbered force, too tightly designed is already jeopardizing it whatever the passive protection resources it is allotted with. Scarcity of forces on the ground obliges them either to lock themselves in - which turns them useless - or to take more risks. It also requires a greater dependence on air strikes, increasing then the risk of collateral damages, and, in return, the subsequent risk for the troops on the ground. Tactically speaking, the best way to protect troops is to have enough of them. Even before that, history demonstrates that poorly trained troops are those suffering more casualties; however, training means time and time means manpower. If number does not “make” quality - which is a result of equipment and training - it “is” in itself a quality.

An army far too low numbered in regard of unavoidable missions it is tasked with means men being put in danger. We are here facing a moral obligation.

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To Answer the Real Questions

“Avant-garde” armed forces for an “advanced defense”

Yesterday, against conventional armed forces, defense could still be set up on the borders and wait, to be put in action, to face the materialization of the threat. Under the control of the States, violence was contained in their limits; but from now on, violence looks like a cancer which spreads, if not treated in time, healthy cells being threatened from the outset whatever far they are from the malignant ones. The new forms of violence, coupled with the internationalization effects and borders porosity, make therefore dangerous the wait-and-see policy and conversely require, outside the national territories, an active set up of a stable environment. The 2008 White Book is crystal clear in this respect as it states that «France will permanently maintain its capabilities for overseas interventions required by the protection of its security interests and by its liabilities».

T he strategist tells us the deep-seated necessity, if we want to win, to set up our own strategic depth; if it is not the case, you are quickly overwhelmed. Therefore it is necessary to defend and stabilize “forward”, on outer circles, to carry out if necessary a backward attrition on halfway circles, to lastly conduct area defense if unfortunately this would be necessary on the last inner circles. Security, ensured by defense, must first of all be set up “forward”, the first pro-action line being often far from the national borders, very close to the “black holes” which should be contained and later on reduced. Prevention under its different aspects plays a key role. It is through an upstream intervention, outside the borders, that we must as soon as possible dry up the violence sources, decrease tensions and instabilities which generate crises, master the logics of nuclear and conventional proliferation: indeed no modern, judicial or security Maginot line would protect for long against external violence and its modern metamorphosis, terrorism, organised crime, etc. Realism, as much as idealism, imposes action: there will be no final security in an island-like Europe in the heart of a global world in crisis without security. From now on, continuity between security and defense dooms the wait-and-see standpoints.

In front of the collective violence which is spreading, to yield to the temptation of entrenching ourselves would be a dangerous blindness. If we are not going to its contact, this violence will come to us. We have no other choice but to firmly gain contact with this world in turmoil and to acknowledge our permanent commitment in long and painful operations. From now on, the French values are first defended on the Hindukuch mountains and the Zaire River.

We must not have any doubt, France needs “avant-garde” armed forces for a “forward defense”.

Defense must be pro-active for fear of failure: protection - primary strategic function, both first and ultimate objective of the defense system -, supposes prevention, second strategic function with multiple components, nuclear

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deterrence, conventional deterrence (by the way to be strengthened, since its credibility is being given a rough ride in current operations), prepositionning, etc. For all that, the exacerbation of the only defense on the territory might lead to threaten what it claims to defend by progressively undermining common liberties as shown with the ambiguous antiterrorist measures taken in other places. Taking into account their own security requirements will lead France and Europe for long to develop the third and last real strategic function which is the stabilization of the violence exporting areas. They will be led to deploy on a regular basis their forces outside, alone or within a coalition, with the purpose of solving internal states crises and cleansing up their environment.

In this framework, the ground action capability reinforces French influence in the European decision-making process. In this respect, the relevance of the military action equipment, of social promotion of the peace instruments and of terrorism prevention tools will be more determining than the possession of power assets, symbolic but unsuited to the major part of the spectrum of current conflict situations, thanks to the capability this will provide to meet the real challenges: land forces are the nation’s power and the soldier is land force’s power...

**To adapt forces models**

Even if it would be irresponsible to abandon the means enabling to face the re-emergence of a major military threat, should we have not been able to prevent it, it is unlikely that, in the forthcoming quarter century, there will be conventional armed forces able to vie with European or Atlantic coalitions. However it is compulsory to keep useful conventional action capabilities. They are indeed necessary to prevent the reappearance of this kind of threat by deterring the possible enemy to rush for power, but also to strengthen the essential coercion diplomacy by supporting deterrence through the entirety of the span of threats and to enable, as much as needed, to impose constraining power in our overseas operations.

However, the perverted effect of this over-power is both to generate a reject of the social models which have produced it and to make unlikely wars it is familiar to; diminishing by itself the possibility of large actions against forces, it finds paradoxically in the unbalance of arsenals the very limit of its utility. By dint of deterring, it discourages. The enemy, always quick to by-pass classic violence, looks for a capability to highlight its political goals in new fighting areas. War, which has shifted from a logic of capabilities to a logic of objectives, no longer bases its success on usual forces ratio. It implies, to resolve crises, the implementation of powerful military instruments, but also political, diplomatic, and social assets thanks to forces able to play in these different fields in the probable war.

As a result, the new contexts are modifying the strategic action and level down advantages provided by high technology. Influence replaces power. The question is less to conquer space than to pacify hearts, to make populations adhere to the project we are suggesting. The basic point is no longer the ability to destroy, but the capability to ensure the political control of the area as well as to set up, thanks to the mastering of a violent action seen as legitimate, the conditions for building a new social contract.

The question is also to show an essential resolution in the will to solve the crisis; in this prospect, the commitment of land forces, which directly involves soldiers’ lives of contributing nations, is of quite another dimension than the unmanned weapons action of the stand off.

Since 1945, most of the wars have taken place within States and this trend is growing. This acknowledgement challenges concepts and models which were valid for the inter-states wars and decreases the contribution of high technology violence to new diplomatic involvements. The new conflict environment is gradually blurring the quantitative, rational and standard certainties of the XXth century: the war deregulation has generated forms of crises.
which put man back in the heart of defense systems. As for the armed forces, the homothetic system cannot be the basic principle for models evolution. The adaptation system must prevail by imposing necessary internal and external arbitration decisions, in order to set up coercion forces systems, but also to be able to generate political efficiency in the field.

The States interdependence, the societies openness, the global character of both challenges and threats do not give any choice to country leaders but to ensure security from the distance to the closeness, taking part in resolving crises, less with destruction weapons than capability to convince backed by a controlled power. However, circumstances and conflict situations are quickly moving. Developing its transformation, the threat is always taking up new aspects we are not prepared to. Therefore, whatever the type of engagement, we will be in a position to make our forces systems efficient only if we are to be in a permanent position of listening and evolving. More than yesterday, but probably less than tomorrow - a quick adaptation capability is to be considered as the basic quality of our military systems. The experience shows that the winning armed forces are those which are learning, the ones which are gaining from real situation their efficiency for the future. “Learn and adapt” said Anglo-Saxons: it is a requirement. We must go further than where we are today. We cannot any longer be satisfied with writing lessons learned, we must learn lessons we have written down and draw all consequences for our forces models, their balances, units training, soldiers education, etc.

Probable wars: new jobs, new soldiers

The beginning century let come out a new model. Operations from now on are marked by the importance of operations other than combat, with quick shifts between different types of action or behavior. The Cold War-type soldier, familiar with a single job, lets his much more versatile successor take his place, a soldier who is suited to carry out actions based on skills and behaviors nearly opposite, capable of coercion, security, humanitarian actions... The military leader remains a leader of men, but he becomes also a manager, a negotiator and a mediator; he must have at his disposal mental and material means for these new roles.

The new soldier must identify his place, which is crucial but not unique in the resolution of new conflicts. He must have understood the importance of the global action and the basic role of the various non-military actors, those of the diplomatic and economic worlds, and of the enterprises. According to the White Book 2008, “the international crises complexity imposes to define strategies encompassing all the diplomatic, financial, civilian, cultural and military instruments, just as well in prevention or real crisis management phase as post-conflict stabilization and rebuilding actions”. The new soldier must learn how to prepare in advance, with civilian players, the decisive phase of operations which is the stabilization phase. He must learn how to better shift from military to security actions, from humanitarian urgency to rebuilding and development policies. He must learn how to progressively handover within the common progress towards standardization, how to combine for the best military and civilian efficiency in order to resolve the crisis.

The soldier will not learn these new jobs with the only learning of coercion. From now on we are pretty sure that, as for equipment as well as for soldier training, the rule of “who can do the maximum can do the minimum” does not apply, since the question is not to do a little bit less, but to do differently with something else. It is not a difference of level, it is a difference of nature. It is a diversification of the spectrum of actions which makes the soldier’s job more complex, because he must remain an expert in his roles of yesterday while being in addition excellent in the ones of the probable war.

We notice a large widening of the military job. It is only a come-back to the reality of yesterday, the reflection of the return of history.

It comes to answering the right questions

We know that the military institutions are particularly suited to develop impressive solutions to problems they like to resolve instead of problems set up by future opponents. The current challenges require to contain this drift to resist to the temptation as we did before to only rely on our technological superiority and our destruction capabilities to face enemies who are today deeply different from the previous ones.

There is no other choice but to take into account the world and the possible opponent evolution. There is no other choice but to understand the probable war. To speak too much about techniques and capabilities, in some kind of understandable process of imitation, leads us to forget to ask ourselves some basic questions about the aim of the military commitment. Since they enabled us to better carry out our war yesterday, we believed that our technological miracles were naturally fitted to the war evolution: but we did not understand that its face was undergoing a real transformation. The debate of the “Transformation” is a justifiable discussion to say the least; it must not mainly deal with technology and organisations, but rather with the aim of war, the best ways to achieve desired goals. Should we set up a “counter-revolution in military affairs” according to the phrase of Ralph Peters? May be not, but the White Book 2008 notices that “the foreseen revolutions in the years 1980 and 1990, based on a high technological sophistication, did not bring the expected guarantees of success; the human factor is and will remain determinating”. May be not, but we will have to firmly turn towards a “transformation of the Transformation”, towards a real capability to understand and defeat the new threats, sometimes radical, which take place outside our traditional military action framework. We must prepare ourselves to the war we will have to carry out, not to
the one we prefer because we know how to wage it; we must therefore deeply change our schemes of thinking. However, owing to a normal move of pendulum towards permanent realities, the war shows today that it is not a question of weapons systems but a political, social and human problem, far more complex and uncertain: we must therefore master the excesses of the “digital” culture - which looks for sure and final solutions - and not let the technological creativeness drive the strategic analysis. We must reintroduce the political dimension within the operational and technical thinking.

It might be because they have acted without thinking of it that the Israelis have intervened in Lebanon in a way distorted from reality. They did not lose of course, but in front of an asymmetric enemy, a Western power which does not win knows a military setback whose consequences widely overcome it. Whichever the appreciation we have as for the success of our commitments, we are part of collateral victims of the whole military Western difficulties: what is damaged, in each case, is the Other’s perception of the conventional military power, the one which still shapes our thoughts, and therefore of the utility of our forces models.

Over last years, everyone could have noticed that the conventional military power could be by-passed. We have therefore to face the deep-seated necessity to restore our armed forces credibility and efficiency. It is our task to think about desirable evolutions, about new balances, while avoiding to provide ever more perfected answers to questions which are no longer valid.

We must think differently. It is our job to prepare the probable war.

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1 To adopt the formula of a German Minister of defense.
2 Even if there would have some countries willing to do so, they would not attack us according to what we call classical ways, from strong towards strong. By-passing our compared advantages which are very well described in our defense reviews, avoiding our power, they would primarily attack our weaknesses and exploit spaces “off limits”.
3 Counter-revolution in Military Affairs, Weekly Standart, February 6 2006.
To preserve force integrity and therefore its operational capability

The primary objective of force protection is counter-surprise. The purpose is, thanks to active and passive, indeed even indirect, measures to save the force integrity and therefore its operational capability. It is therefore imperative that the force doesn’t suffer any preliminary attrition.

“Force protection encompasses the whole ways and means taken out of war actions to minimize the vulnerability of soldiers, facilities, equipment, operations as well as the picture of a force committed in crisis management facing any hazard and in any circumstances”. This early stage of a definition is to be approved since the joint reference document is still submitted for approval. It possibly might include combat actions which indirectly may take part in the protection of the rest of the force.

Beyond the necessary protection of the force combat strength, the aim is therefore definitely to ensure the theater commander’s freedom of action and as perfectly shown above with the Drakkar example, it widely overcomes the theater level because it reaches the governmental and political level, any military commitment being linked to a political objective.

It is particularly difficult to precisely define the whole spectrum of the force vulnerabilities which should be protected. They are depending on the operation context, the identity of the threat (conventional or asymmetrical) as well as the aimed objective. But in any case, the enemy will always take on these vulnerabilities as soon as he would have identified them, would they be physical or immaterial.

- as for the physical aspect, it deals with units and premises, movements and people; the enemy looking for creating an unsecure environment as well as hindrance of movement;
- concerning the immaterial field, it deals with the force credibility towards local population, its picture facing
the national and international public opinion (an amplified phenomenon in case of a multinational coalition); the enemy will therefore look for making the force unreliable towards the local population, carrying out dramatic actions impacting national or international opinion.

In current operations, the force critical point takes place during the initial deployment as well as during relief operations, which are favorable situations to create a bigger vulnerability.

To be protected without diminishing the operational capability

Being a means and not an end in itself, focusing too much on protection might lead to turning in on oneself, to a kind of “Line Maginot syndrome” leading in fact to lose any freedom of action, which will be paradoxically the aim of the assymetric potential enemy. It is exactly what occured in the Kosovo province, during 2004 events, when, being fully occupied with their all assets to protect their own facilities, the KFOR was unable to intervene during the Albanese insurrection. Serbian territories, which were therefore left to their fate, were pillaged and destroyed.

If, on principle, each command level is responsible for the protection of the whole military facilities and assets under its command and those located in its area of responsibility, it is up to the theater commander to prioritize and monitor that there will be no duplication in the field of measures to be taken.

It will be therefore his responsibility to determine force centers of vulnerability, to identify necessary capabilities devoted to protection - according to the principle of a level of strict sufficiency -, to define the warning stages as well as the corresponding orders and to specify protection directives. They might be therefore expressed into orders by subordinate levels, the Component Command Headquarters.

To be really efficient this operation has to be preceded by an intelligence effort regarding the current and foreseeable environment in which the force will be committed. In the same way, during the generation force phase, contrainsts and imperatives linked to protection are to be thought as means to be devoted without hindering the assigned mission. Lastly, during the set up of the force prior to its deployment, protection must be subject to an operational suited preparation, particularly as for information and specific training modules.

To realize a global protection

As part of a wise economy of force, force protection takes part in the very success of the mission. This economy of force is always to be seen as dialectics between two options: a maximalist one, taking into account the wished in front of the whole spectrum of the threats, and a realist one, which, being aware that too much protection will damage the integration of the force and in fine its mission, agrees to take a chance. It is therefore a command choice which should be commensurate with the risks the commander is ready to accept. In this perspective, and thanks to an
intelligence oriented effort, it will be advisable to permanently check that measures taken against countermeasures the enemy is sure to implement will be adequate.

Involved in the heart of populations, the force must be able to protect itself without creating collateral damage, which will go against the very spirit of the mission.

Protection is therefore a global concept which encompasses:

- **active measures**, it means opposition to an enemy attack by directly acting on it according to the triptyque “deter, detect, intervene”.

- **passive measures** at force level, in order to ensure the integrity of people, equipment and facilities; they will notably be effective thanks to an alert system graduated according to the threat level relying on intelligence collection and the hardening of the facilities; despite that these measures still remain get around;

- **reactive measures** aiming at fixing any incident and then restore the integrity of the capabilities and the facilities.

Lastly, **combat actions** could take part in force protection against objectives which are not directly linked with the main threat, which is the mission objective. In this respect, Wingate’s action, during the Birman campaign in 1943 - 1944 is absolutely revealing since, indirectly, it ensured the far protection of the XIVth Army of Marshal Slim: by creating a permanent climate of insecurity in the Japanese disposition in Birmany, Wingate preserved the freedom of action of Slim, the Birman theater commander.

As a permanent dictate assigned by the force at any level, **protection is a major dimension of any commitment and a key condition for mission success.** A joint publication concerning force protection concept and doctrine would shortly clarify this pending question.
A Joint Concept for Force Protection

A concept of employment for “force protection” has recently been developed. Two remarks have to be made from the outset. On the one hand, although minimizing the losses remains a permanent concern for the whole chain of command whatever might be the situation to which the forces are confronted, that same requirement is even more important during interventions conducted to achieve objectives less tangible than the mere defense of our vital interests. This is especially true in a crisis resolution situation. And, on the other hand, the joint nature of that document isn’t just due to the will to be trendy. It highlights the concern that is shared by all the components confronted to the challenge that is posed by opponents that are most of the time irregular ones, and the need for developing a deliberate and synchronized synergy of all the various leverage means that are present in a theater in order to respond to that challenge.

Providing our forces with the necessary resilience capability becomes then crucial since they have to put themselves at risk in order to achieve their mission. Force protection, which is an essential element of the freedom of action and of the safeguard of the combat effectiveness, results from a global posture.

Why providing the force with a necessary resilience capability?

Intra-states types of conflicts, because of their complexity and human dimension, imply being permanently looking for the right balance between power and influence within time and space. Armed forces try, in priority, to control, most of the time, in an enduring way, the multifaceted violence implemented by an irregular opponent, who is at one time our enemy and the next day our interlocutor or even our partner. Within that logic they must maintain a close contact with the populations; this is a prerequisite for the establishment of stability, even if, at first sight, going into one’s shell could appear to be the best way to guarantee the forces security. Though the objectives are less tangible than the defense of strategic interests, any human casualty or any important material loss could undermine the national or multinational determination to resolve the crisis in a lasting way. This implies that the deployed force is very much exposed, even over exposed not only in an operational way but also politically, psychologically and in front of the media. It is thus confronted to a paradoxical challenge: to expose itself while minimizing its vulnerabilities.
What is it all about?

Force protection covers all ways and means, except combat action, intended to minimize the vulnerability of the personnel, installations, equipment, operations as well as the image of a force engaged into crisis management, in front of all types of dangers and in all circumstances.

Although it should not be regarded as an objective in itself, force protection aims at safeguarding commanders' freedom of action on the theater of operations as well as the operational efficiency of the force while protecting its credibility and legitimacy. It participates in maintaining combat capabilities as well as the political freedom of action because of the impact that losses would have on western public opinions' sensitivity.

Force protection can be achieved thanks to active and passive means; it applies especially to land forces that conduct security or assistance tasks. It also applies to temporary installations (bases, command posts ...) as well as to the movements, especially to the logistics ones.

The host nation as well as the international environment may impose constraints of various natures (legal, judicial, political or cultural ...) that may have an impact on force protection.

Within the framework of a coalition, force protection is an issue that must be tackled in a multinational way in order to reduce as much as possible the volume of national means to be engaged. However the variety of behaviors, objectives or means implemented by the various national contingents may become a source of weaknesses.

What are the main principles of implementation?

Force protection should be mainly conceived as an overall posture.

Force protection must always be in the minds of all levels of command at all stages of an operation from generation to redeployment. That "globalization of the force protection approach" is illustrated at the operational level by the definition of the means, the strategic choice of stationing and deployment areas, the command and control organization, the balance of efforts, the priorities and constraints. The operation and the force commanders have then to promulgate respectively rules of engagement and rules of behavior to facilitate the implementation of force protection that has to be immediately integrated within the theater overall operation plan. That OPLAN relies on measures that are defined and coordinated at operational level and based on a sound knowledge of the environment (understanding of the theater's human and socio cultural specificities).

Force protection is a permanent and continuous process.

Theater danger assessment based on intelligence provided by all sources available, initiated before the deployment and constantly updated, is thus a permanent concern. It allows to look for the level of protection that is best adapted to the threat by means of setting priorities in space and time at all levels. The setting of these priorities takes into account the level of risk, the probability of its occurrence and how critical it is for the force. That optimization of the level of protection is being conducted within a logic of economy of means to the benefit of the force's main mission as well of its integration within the population. Its implementation must avoid an excess of security that could result either in forbidding actions that would however be required, or in diverting too many means from their main missions.

The selected level of protection induces series of measures, individual or collective, preventive or reactive, defensive. These measures aim, in particular, at reducing or suppressing the effects of an aggression before they have an impact, as well as at protecting personnel and infrastructures against the effects of an aggression within material and immaterial domains, at regenerating, within a constrained timeframe, a minimum operational capability. The force must be able, at short notice, to change its posture in both ways i.e. reducing or increasing the level of protection, in accordance with the threat, the mission's requirements and the environment.

An over-all reaction capability is necessary

On the theater, it is thus necessary to look for and implement immediate measures that do not require additional means or new courses of action. On the national territory, within the framework of the close loop lessons learned process, it is required to envisage specific solutions and to rapidly conduct the necessary acquisitions especially when human life is at risk.

1 Centre interarmées de concepts, de doctrines et d’expérimentations. (Joint Center for Concepts, Doctrines and Experimentations).
2 Followers of a global strategy that consists in by-passing and wearing out our power.
3 Force protection doesn’t cover these land units that conduct combat operations. They must ensure their security within the framework of their mission.
4 The word danger has to be taken in a wider meaning. It includes threats that are identified, produced by a physical capability and a willingness to do harm as well as the risks that can be caused by the environment (technological incidents, pollution, weather, diseases...), or to dysfunction of a force action. (accident, fratricides, collateral damages, exactions...).
5 Personnel, equipment (vehicles, ships, aircraft, ..., installations (supply bases, communications means, ...), information, force’s moral and intellectual capabilities.
6 The measures of protection that are defined at the operational level must be transformed by the components for the tactical level and then adapted to the situation by developing technical and tactical guidance (for instance, in the case of dedicated forces). Some measures may then be translated in terms of missions for the lower level.
7 Concretely, at theater level, it can be decided to modify the units’ missions, because of force protection issues.
8 Economy of means requires joint components’ complementarity.
9 Over protection may be detrimental to the force’s efficiency and thus to its image.
The resolution of a crisis requires most often a transitory phase of stabilization during which our forces put themselves at risk especially in order to win hearts and minds. Guaranteeing at any time the force’s resilience is thus required, in particular to preserve its credibility and vitality. Force protection responds to that requirement. It is a permanent concern and it requires to be conceived and kept consistent at theater level; it also requires to be adapted to the risks’ assessment and to get a capability to react in theater as well as on the national territory. It must obey to the principle of “just sufficiency”. Though force protection is required whatever might be the modus operandi, it should however not impede, neither alter nor constrain the main mission.
The three principles of war described by French Marshal Foch are the following: freedom of action, economy of force and concentration of efforts. He had wanted these principles to be global enough to be used as guidelines by military commanders in all kinds of conflicts; nowadays, we can but notice how relevant they are in all the parts of the world where our forces are being committed. In these overseas theaters, the security of a force is a requirement that is necessary in order to achieve these first two principles. Well, simultaneously, new hazards and new threats come up in current crises regarding committed soldiers, whereas their equipment and the environment within which they operate also produce new vulnerabilities. From then on, we have to get aware of these new hazards, threats and vulnerabilities that are met by our units in overseas theaters.

By Captain (to be promoted) Olivier Antragues - CDEF/DEO

New threats alongside with new commitment’s environments

Current commitments are more broadly turned towards defense than before. Currently, it is no longer conceived as an overall commitment towards a major identified threat, as it used to be at the time of the WP (Warsaw Pact). On the other hand, defending France's interests - whatever they are - has led to increase the number of commitments for our forces on all the continents. From now on, our goals consist in looking for peace and stability, cornerstones for our security; notwithstanding, it does not mean that our commitments are necessarily less violent and it does not exclude the assumption of a major direct threat coming up.

Hazards and threats at the very heart of stabilization

This new operations continuum takes place within this new context. Within the successive stages: commitment, stabilization, normalization, the second one, stabilization, is critical.

It is also during this stage that we should focus on threats hem during any commitment is part of thought, from operation planning and maneuver concept drafting up to security and safety to the lowest levels. As for normalization, it is the return to peace, when militaries increasingly hand over to civilians, which requires that hazards and threats were phased out globally prior to it.

This statement is all the more important as violence actors are increasing, from more or less dismantled conventional forces to terrorist movements, resistance groups, armed gangs and brainwashed crowds during this stabilization stage.

Specific aspects of these new violence actors

This increased number of actors, linked to their shrewdness and to the different situations, makes it impossible to describe threats in stabilization phase extensively. Indeed, this stage could have very different aspects, and simultaneous coercion, and security operations and humanitarian aid are likely to be carried out simultaneously.
From then on, we cannot endeavor to define standard COAs. However, several assumptions could be considered:

- **Operations carried out by conventional forces**, either still committed in the theater, or even if it is a revival. Then, a direct confrontation is likely to occur, hostilities are likely to resume, or occasional combat operations with a lower intensity;

- The **presence of one (or several) guerilla force(s)**, an irregular force including a well organized and staffed paramilitary armed force. This guerilla warfare is likely to take up either conventional COAs (Courses of Action) or other processes likely to reach up to operations of a terrorist kind;

- **Operations carried out by terrorist groups** that often declare themselves to be “resistance” groups, whatever their motivation. Most often, these groups look for affecting the force’s moral and for bringing discredit upon it towards international and local opinions;

- Eventually, a likely **attack from the local population** is a scenario that could have very violent aspects likely to hamper the force from carrying out its mission, even to harm its operational capability.

Most often, a threat can be defined by the occurrence of one of these scenarios, but several of them could also occur simultaneously, in variable proportions, thus making the action to be carried out by the force more difficult. To defend its interests, mafia-like serious crime organizations could also look for political, religious or other legitimacies in order to protect profitable trafficking.

The current trend: the evolution of crises towards asymmetrical confrontation

Western armed forces have assets and technologies that have enabled them to gain a military superiority - from now on undisputed. In overseas theaters, where they are tasked to be committed, their adversaries of the moment are thus committed into a from-the-weakest-to-the-strongest fight. Most often, this disproportionate power ratio leads them to carry out their fight in areas where the adversary’s advantage is ineffective, thus making use of the complete disparity regarding the kind of assets and COAs. Therefore, they voluntarily put themselves into asymmetry. The superiority of Western armed forces and the kind of their commitments should turn this trend into an enduring phenomenon.

**Threat’s features in asymmetrical commitments**

By operating within an asymmetrical context, the adversaries of the force endeavor to take advantage of its weaknesses and to turn its power into vulnerability. Threats that come out of it are particularly difficult to grasp as they comply with three sophisticated principles: unpredictability, developing feature, will to impose terror.

**Unpredictability** adds to “the fog of war”, inherent in military operations. Adversary’s actions are difficult to detect as he merges into the population, adapts himself to circumstances, and keeps renewing his organization and his COAs. This developing feature is made possible because he can get rid of most constraints by which conventional forces are bound. The will to impose terror is a good way to reach ones’ goal by destabilizing the force, and in this field, an action carried out by a small group of fanatical combatants is likely to have the same effect as an action carried out by a conventional military unit. It relies on “swoops” with a very strong psychological effect; and these actions do not comply with the law of war - whatever its kind - or with any other humanitarian consideration. Conversely, these unconventional COAs are aimed to a maximum effect of dramatic violence.

Eventually, this threat is all the more dreadful as it is carried out smoothly on rugged ground or on urbanized terrain, within a population, which becomes both an actor, a shelter and a challenge.

**Overall approach from asymmetrical systems**

Thus, these adversaries that operate in the asymmetrical field are currently
the main threat in overseas theaters. To know them better, an overall and more analytical approach enables to define some characteristics. There are three kinds of asymmetrical systems\(^\text{12}\): predation, claim and subversion systems\(^\text{12}\).

- **The predation system**: aiming to earn profits, it tries to expand by being a parasite on society; and for this purpose, it circumvents police and judiciary structures likely to thwart it. Generally, it is not within the scope of armed forces.

- **The claim system**: its purpose consists in seizing local power. It matches the frustration of part of the population that considers being the victim of political, social or economic injustice. Armed struggle is fully part of its COAs in order to take a region away from government’s authority.

- **The subversion system**: this last one is of a revolutionary kind. As a totalitarian system, it endeavors to impose its (ideological, religious, or other) values throughout the world, in an uncompromising manner and to the detriment of the Rule of Law. Its opponents must give in or they are eliminated. For it, all the kinds of armed struggle are legitimate, including the most violent ones (terrorism, use of WMDs (Weapons of Mass Destruction), etc...).

These systems appear in operation theaters under two aspects: guerilla warfare and terrorist movements.

**Guerilla warfare** is a movement that has already reached a significant strength and that has developed a coherent military organization. It also tries to discredit the adversary force, to paralyze it or to break it up. Then, its COAs will aim to deny it some areas, to thwart its operational and tactical movements, to isolate it or to decapitate it. It often employs also more or less systematically terrorist methods.

**A terrorist movement** intends to be recognized and to gain the largest possible audience. To this end, it carries out actions that are as much media-staged as possible (through symbols, violence, or the importance of the target). It could also want to discredit the government to which it is opposed by disrupting it; then, it attacks facilities or it jeopardizes the way organizations are operating. In this case, it attacks the country’s interests, allies, and nationals to isolate the government, or it tries - more directly - to ruin the society.

**A glimpse at hazards and threats in overseas theaters**

Thus, hazards and threats in overseas theaters are linked to the nature of this kind of asymmetrical adversary. Though it is impossible to depict this threat exhaustively, some trends could be noticed, be it either frequent threats or hazards under any circumstances, including in this kind of operation, or more specific dangers that recently came up in overseas theaters.

**Threats and hazards - we have been aware of since ancient times - still present in this context**

As early as peacetime, the armed forces are subject to hostile acts from organizations or individuals that try to undermine their security by other means than military confrontation. These actions are so-called “interference”; the most important ones are: terrorism, spying, sabotage, subversion and organized crime (TESSCO)\(^\text{19}\).

This interference threat is of paramount importance for a force committed in an overseas theater, and even more if it is opposed to one (or several) asymmetrical adversary(ies) that endeavor(s) to avoid direct confrontation. By the way, this latter one does not hesitate to use terrorism (see “Overall approach from asymmetrical systems” above) or subversion. It aims to demoralize the force, and to weaken it, with methods including propaganda, disinformation, and the implementation of a suspicion and disillusion climate, civil unrest and by using the population for their own ends. **Spying** is a permanent trait enhanced by an increase in modern information assets likely to provide the adversary with intelligence, and because operations take place on his territory, or at least in a foreign country. **Sabotage**, close to some terrorist methods, targets more specifically key facilities, critical assets, communications networks and information systems. It could also try to reach critical civilian targets (with a technological risk or with a high economic value). As for organized crime, it is not the main objective for the force. However, it could be a threat by jeopardizing its operational readiness (by making it the target of its attacks if threatened) or its respectability (by endeavoring to recruit accomplices for its traffics, or by proposing its goods to the military personnel).

Eventually, as regards hazards, many of them are inherent in the environment. Each environment is obviously a hazard source: dangerous unforeseen climatic events, inhospitable wildlife, epidemics and epizootic diseases, etc... Intelligence should enable us to include these factors into the “PREO” (Terrain, operational environment, and enemy intelligence analysis), even before the force is deployed, in order to be able to fit it with relevant equipment or to take appropriate prophylactic measures.

**Other kinds of conventional threats and hazards adapted to these new kinds of commitments.**

At the top of our list of adapted threats, the air threat remains there\(^\text{14}\) however, in particular in front of an asymmetrical adversary with scant assets, though it is often neglected in stabilization operations. Whatever the kind of commitment, it will never be possible to be fully protected in this field, and this, even more as units are, most of the time, deployed in large theaters\(^\text{15}\). The aggression risk is polymorphic and permanent; its aims could be: reconnaissance, intelligence, fires, EW (Electronic Warfare), etc... as for the use of UAVs (Unmanned Air
ECPAD

Vehicles), it will become more and more frequent. **EW (Electronic Warfare)**, another conventional threat, is on the agenda again. In the current world, information is a raw material and an indisputable power factor. Units are increasingly facing the development and use of NCITs (New Communication and Information Technologies). "A set of military measures including the use of electromagnetic energy to determine, exploit, decrease or prevent the enemy to use the electromagnetic spectrum and the various steps enabling friendly forces to use it", EW's targets are: communication and information systems, surveillance and tracking systems, weapons systems, reconnaissance systems, etc...

Both a hazard and a threat, and an heir to a disappeared kind of war, the CBRN (Chemical, Biological, Radiological and Nuclear) field is more than ever topical. **The NBC (Nuclear, Bacteriological and Chemical) threat** from an adversary is to be taken into account depending on some signs, such as its assets (agents, carriers, specific systems regarding the nuclear field, etc...), its doctrine, and the likelihood for it to be used. To these NBC threats, we should add hazards made of the presence of industrial facilities. They are likely to produce CBRN hazards that are likely to result from actions intentionally carried out (criminal intent or terrorism), unintentionally carried out (collateral damage), or occurring accidentally (dilapidated state, lack of safety, etc.). These hazards - taken into account in NATO doctrine under the name NBC-ROTA - are inherent in nuclear and chemical industrial facilities, in various radioactive sources, in some ammunition and in the transportation of dangerous materials.

**IEDs (Improvised Explosive Devices)** represent the new threats that have appeared in new forms during recent commitments. Indeed, "the IED threat has much increased in overseas operation theaters and it illustrates the asymmetrical dimension of current conflicts, both through purposes and used assets and ways". This process - that seems to become widespread - has become the favored tool for resistance, insurrection, and terrorist actions. This threat is sophisticated, changing, and permanent. It includes both naturally-developed IEDs (devices developed to this end) and purpose-developed IEDs (assets diverted from their initial use). IEDs could be used in an isolated manner or within the framework of coordinated attacks. They enable to strike repeatedly and unexpectedly, with fewer risks and scant assets, while avoiding direct contact. They aim to produce psychological effects, even more important than physical ones. They impair the force's readiness, and they compel it to use part of its assets for its own protection; they are likely to have an influence on the political power by acting on public opinions, and to show hostility towards local
Eventually, a **hostile crowd**, the last kind of threat that has gained ground in overseas theaters’ commitments, could happen to be particularly awesome. Its gathering could be organized, spontaneous or manipulated. It could have no specific aim, except for expressing its wrath; but if it is manipulated and led, it could have accurate goals: military ones (attacking the force, creating a distraction), political ones (responding to an event, expressions of hostility towards the force), or economic ones. This threat varies depending on crowd’s features (strength, composition, goals, COAs).

Eventually, **hazards and threats to which forces are faced in overseas theaters are varied and dreadful.** Hence, the committed force is particularly facing danger operationally, but also politically, psychologically, and from the medias etc. Its protection, a specific concern for commanders, has thus a specific intensity as it is a **major factor for his freedom of action and for the safeguard of its combat effectiveness.** Therefore, we can wonder whether force protection is not about to become a new operational function.
Organization of Force Protection at Tactical/Operational Level

Ivory Coast, November 6, 2004. A Sukoi-25 flies twice at low altitude over Descartes school in BOUAKE. In this school the RICM has settled its Battalion Rear Logistics Supply Point (TC2). The fighter fires its rockets killing 9 and injuring 37, and also killing one US civilian from a NGO. Despite our units’ professionalism, this drama reminded everybody the strong requirement of what was called up to then safeguard or security-safety conjunction and what is from now on understood as the concept of force protection.

On any theater of operations, we now observe that the courses of action of adverse forces put on our units a burden of new risks, diffuse and harmful, ranging from terrorism to the possible use of weapons of mass destruction. Subsequently, in the current environment of operations where asymmetric threats took over conventional threat, it is of primary importance to consider force protection as a full fledge operational function.

In such framework and like higher NATO commands, Rapid Reaction Corps - France (CRR-FR) HQ endeavors to put into practice the “standardization” of procedures and processes already in place at national level in this area. The objective is to minimize the vulnerability of personnel, infrastructures, equipment and operations in front of any kind of threat in order to keep the freedom of action and operational capability to secure in fine the mission success.

From safeguard to force protection...

Today more than ever, soldiers in operations should protect themselves from a multi-shaped violence. They actually should ensure their protection in proportion with the growth of residual violence. This may come from an organized resistance, terrorist movements or population unrest. Up to then, know-how in coercion phase were clear and under control, on a theater where the conflicts areas and the rear area were clearly delineated. Today, these areas are interwoven and CSS units have become worthy targets. In fact, security management of these units between non-contiguous areas obliged all great powers to review their protection concept. They have been step by step abandoning the safeguard concept which was sometimes limited. They now favor the concept of force protection which is more adequate. We should now understand the concept of force protection as the association of standing security measures and context-related security measures. These measures ensure continuity and coherence in the protection to be provided to units, from force generation to the engagement in the conflict. The permanent security relates to the protection of individuals, facilities, operational security and CIS security. It has numerous interactions with the fields of fire fighting, police actions, medical treatment, road safety. It also considers safety during leisure activities. Context-related security completes this new concept of force protection in taking into account “extended” concepts in order to protect as much as possible the physical and moral integrity of the soldier.
The fields of force protection...

NATO is keen to implement this new concept of force protection as soon as an operation is launched. This operation may vary from crisis level to major commitment. A number of fields are to be added to this concept and to “conventional” security and safety actions. These domains are building and completing the new spectrum of force protection in operations. We must then imagine dealing with these new fields in a comprehensive and simultaneous way. This is done for instance in infrastructure hardening, air defense and CBRN threat. For this reason, this new operational function should be considered in a “transverse” way within the HQ. Then, each cell contributes at its level to the full process of orders drafting to guarantee coherence of the selected disposition and procedures to be implemented.

Moreover, force protection requires a vertical approach within the HQ. A “hierarchy” work is indispensable; it is ranging from the physical protection of the command post (CP) which requires a concrete approach of the terrain to the political survey progressed by political and legal advisers (POLAD et LEGAD). This is in particular due to the environmental features of the new concept of operations. The end goal is to never leave anything to chance, to cover the full spectrum of fields related to force protection. This is especially true for our CPs and our second echelon units. They are actually more vulnerable targets because they are more visible, more extended and benefiting from few defense assets. Forward units have been made more aware and then are de facto better protected. It is then about a real culture to be gained both during the orders drafting process and in the field through the actions conducted by subordinate units.
The main components of force protection ...

To ensure a better coherence to force protection, it appeared both logic and efficient to break it down in four main components.

**Protection security** aims at the overall organization of the protection system especially in the area of security.

**Active defense** gathers active measures enabling reduction of the efficiency of an enemy attack by acting on it.

**Passive defense** gathers passive measures taken with a view to enhance both physical defense and individuals and facilities protection in order to minimize the effects of an enemy attack. This component is today in particular essential for the defense of our deployed command posts. However, it is not the only one to work for protecting our CPs although it constitutes the first of guarantees when facing an attack. The huge budget NATO-implemented today in Afghanistan to protect air bases, logistic bases and region CPs demonstrates how important it is.

Finally, **recovery** concerns all measures taken after an attack to restore the operational readiness of units. This concept is frequently neglected, but it is essential for the theater commander. He has then all guarantees to recover the combat effectiveness enabling him to continue fulfilling his mission.

Force protection in CRR-FR...

For the implementation and organization of force protection in operation, **CRR-FR** benefits from a Force Protection Officer - FPO. This officer is in charge of force protection, he reports to G3 (Ops branch) and more specifically to the Joint Operations Center - JOC.

The FPO is involved from the beginning in the orders drafting process by writing down the Force Protection appendix to OPORDER; he continues in current ops with mission monitoring. This enables him, if need be, to adjust the protection measures. In this respect, the FPO participates in G5’s Corps Planning Group - planning beyond 96 hours - and G35’s Corps Operational Planning Group - planning up to 96 hours. Similarly, he can be an helpful actor in other working groups (Counter-IED Working Group, Targeting Working Group,...) within the CP.

In operation, the FPO arranges in a regular basis and/or according to the situation a working group on the adaptation of force protection measures (Force Protection Working Group). Representatives of each HQ cell involved in the implementation of force protection measures are taking part in it. In this working group, the threat is re-assessed and measures amended if need be. They are then forwarded through a FRAGO to subordinate units.

The actors of force protection take reference for their various works in the Force Protection Handbook implemented by **CRR-FR** in collaboration with the signal and command support brigade (**BTAC**).
The **FPO** then works *in support of the force as a whole* and not only in support of the HQ CP. He communicates on the one hand with the **FPOs** from adjacent or subordinate units. On the other hand, he communicates with the Force Protection representatives from the higher level according to his level of employment (HQ of a division, corps, land component - LCC - combined arms and/or joint).

Conversely, the **protection of CPs** is only a **component of force protection**. Protection of CPs is a full-fledge mission dedicated to the Headquarters Security Officer - HQSO. He is in charge of it under the control of G2 (intelligence branch) and more especially the Corps Security officer and the Provost Marshal cell. The HQSO is supported by the expertise of **6th RCS** and **43rd RI** (both building the 643 HQ Battalion) for the application of measures of physical protection.

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2 **Translator's note**: Train de Combat n° 2 : Rear Logistics Supply Point for the Battalion.
3 Gendarmerie Adviser/CRR-FR.
4 Régiment de commandement et de soutien : a HQ Bn.
5 **Régiment d’infanterie** : an Infantry Bn.

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**A new operational function still to be developed...**

As for any new function, matching NATO requirements with national concepts is not an easy job. This statement prevails in the field of force protection which refers sometimes to habits rather than legal concept of the nation. *Fitting force protection into a continuous process is also very complex*. Such process has to run *seamlessly from peacetime to crisis time*. Trained and aware personnel have to be available. However, this field is often relegated to the “miscellaneous” paragraphs in our national OPORDERs...

Taking into account force protection is a **new challenge for CRR-FR**. It is still to be developed especially regarding the distribution of responsibilities between G3, G2 and the Provost Marshal cell.

Moreover, it is important to **improve the organization of individual and collective operational preparation in this field which is too frequently forgotten**. The concept of employment is now defined within NATO through doctrine documents whatever the level of engagement is. However, considering the likelihood for **CRR-FR** to be committed in a strictly national framework, the publication at French level of the same kind of reference document would be necessary.

**Force protection appears then as a full fledge operational function.** This new field requires questioning our habits and our “conventional” views of safeguard.

However, we should avoid the pitfall which consists of force protection becoming through excess a constraint, and bridles initiative and freedom of action. The aim is actually to minimize risks and not to take them away which would be utopian in the context of our today’s missions. **We shall then permanently look for the subtle balance** between the response to be given to a certain threat and the freedom of action required for the success of any mission. There lies the real challenge of force protection in the coming years.
During the Cold War, the French Army was equipped with means and structures capable to face the Warsaw Pact’s forces nuclear and chemical threats. The 9/11 events in the United States, the situation in Iraq or the recent unveiling of an incident involving the smuggling of enriched nuclear material demonstrate clearly how much the chemical, radiological and biological threats are significant. The old dichotomy between foreign and home theater of operations belongs nowadays to history; these risks could also threaten our country where the violence which usually belongs to remote theaters of operations could occur with potential use of existing or imported radiological, biological or chemical material.

The Army, confronted to a multifaceted enemy, capable to strike military as well as civilian objectives, has undertaken an actual revolution in doctrine and structures in order to equip itself with adequate assets able to cover the entire spectrum of protection, detection, and restoration in front of traditional nuclear, biological and chemical threats.

Though a CBRN threat is always possible during a coercion phase, it is however highly probable during stabilization phase. That is why CBRN defense must meet its own challenges while adapting itself as well as possible and proposing lasting and adapted solutions.

Potential risks during coercion phases

A history marked by modernity

It’s during the First World War that chemical strikes were massively used for the first time. During the Second World War that type of weapons, nuclear ones at that time, were used for the second time with a military purpose at Nagasaki and Hiroshima. More recently during the 1981-1989 Iran Iraq war, chemical weapons were massively used by Iraq to restore its front and caused thousands of casualties. And last, it exists today, within the CBRN domain, technologies, material and know-how that are accessible to everybody and that can be used in a harmful way. The World Wide Web development, the many unemployed Russian scientists or the number of untraceable former USSR’s nuclear missiles are factors that make so extensive this covert type of commerce.

A risk assessment that is well taken into account

Confronted to that very real threat when the in-depth revision of TTA 808 was undertaken the CDEF didn’t forget to mention that this new generic enemy was equipped with chemical and biological weapons. That manual states a probability of employment of such weapons by the generic enemy; it also describes capabilities as well as a few possible employment doctrines.

For instance, talking about the biological threat and a military type of dissemination (GLAISE army), the making of dry or liquid particle sprays, using aerial, land or maritime vectors, would probably be favored because of its output that is much better than the one of any other technique.
Potential risks during stabilization phases

Most probable employment of CBRN by terrorists

French armed forces as well as their allies could be confronted to a CBR type of event. As a matter of fact, whatever might be the asymmetric threat - guerilla, terrorist or technological incident consequences management - the probability of such a risk remains obvious.

Repeated use of chlorine canisters associated to IED (Improvised Explosive Devices) in Iraq against coalition forces demonstrates that this threat is real. Operational implications will be plenty and certainly exacerbated by the imbrications of the armed forces within the civilian populations that impact heavily the land component. As a matter of fact, if, on the one hand, military personnel and equipment are comparatively “well trained and hardened for war” in front of these types of dangers, it won’t be the same for the civilian populations who will have to be rescued. In addition, the effect achieved by that terrorist activity will weigh a lot on the communication and distribution networks disorganization.

The international legal environment, the treaties and conventions related to the “Weapons of Mass Destruction” and that aim at banning their employment, would remain pointless as soon as they’d be used by a cross border type of revolutionary or terrorist organization. However, its very existence provides a CBRN attack with an international repercussion that necessarily impacts the crisis’ “local” management.

In matters of doctrine, these CBR threats during stabilization phases are taken into account in the joint doctrine document dealing with IEDs that describes in particular these CBR agents that could be associated with explosive devices.

The CBRN defense missions’ duality

Three of the four main strategic functions (prevention, projection, protection), are naturally concerned by the CBRN defense actions which capabilities are now to be described within a logic of provision or contribution on the national territory, and in direct support to the protection function during expeditionary operations.

As a matter of fact, in the CBRN domain, the boundary between national territory and expeditionary operational deployment doesn’t exist anymore. Materials such as chlorine can very easily be found in stores and the temptation is high to bring war and terror onto the opponent’s territory.

The CBRN defense confronted to its challenges

An adapted response, from CBRN protection to CBRN defense

CBRN protection covers four domains:
- Non-proliferation;
- Counter-proliferation;
- Active defense;
- Passive defense.

Non-proliferation and counter-proliferation cover the prevention domain.

Active defense that consists in all the direct defensive measures aiming at suppressing or reducing an enemy’s action efficiency, constitutes the last ditch before CBRN protection turns to no more than passive defense.

And last, passive defense aims at protecting persons and equipment in order to reduce the aggression’s efficiency while keeping some freedom of action.

The Army CBRN defense

Only the passive defense is taken into account by the Army within the CBRN defense. The Army engages individual and collective means of protection, detection and decontamination, as well as preventive and curative medical measures. CBRN defense, which is conceived as an individual and collective responsibility relies on the traditional triptych that reads: “warning, managing, restoring”.

A difficult but indispensable anticipation

Confronted to the challenges presented by the various CBRN threats, the Army has favored the development of efficient decision-making tools.
CBRN threats, coming from a potential opponent or belligerent are to be taken into account starting from a series of pieces of evidence collected by the various components of the intelligence community, military, industrial and diplomatic. These evidences relate to registered material, current doctrine of employment, most of all, to willingness to use these means, coming in addition of the fact of not belonging to an international program of verification.

In matters of doctrine, the reference about organization and anticipation are the joint CBRN defense doctrine, DNBC 201 and the handbook for land forces deployed under biological threat.

The implementation of tools intended to support the decision making process would remain insufficient to respond to CBRN incidents if there was no means available to operate.

A well mastered management process

The “CBRN z’ régiment de dragons” is the main actor for CBRN defense within the French army. This battalion size unit already masters number of specific know how: sites and zones reconnaissance, risk assessment and management, heavy equipment decontamination.

It will soon be certified SIBCRA and will then be one of the crucial actors to establish the evidence of a C, B or R type of aggression which will allow to employ it within the surveillance or counter proliferation frameworks. Thanks to the NRBC o3.062 modules1, that battalion provides any deployed force with specialists capable of bringing an adapted response to almost any CBRN situation.

Restoration, a process that remains difficult

Within the CBRN domain, restoration consists of “processing” contaminated personnel or equipment in order to re-engage them as quickly as possible. Now, taking into account these currently available know how, it is however still almost impossible to decontaminate entirely a contaminated area and to guarantee that there is no danger remaining. It is thus necessary to envision having to accept a certain amount of residual risks.

In that matter, the example of the British island of Griunard is very revealing of the difficulty to decontaminate correctly a contaminated area. That island was a place used to experiment anthrax during the Second World War and it only became accessible again about fifty years later.

A new attitude in front of the most probable type of engagements

The Army as a whole is evolving significantly in terms of organization and definition of its systems of forces. The CBRN domain must be actively part of that process. First, and beforehand the basis for any reflection will have to start with a new definition of risk acceptance, the “zero killed” notion is now history. And on the other hand, it will be necessary to define what would be an acceptable compromise in accordance with the constraints in matter of volume and resources.

The risk acceptance level

CBRN defense leads necessarily to wonder about that risk acceptance level. Have, for instance, the consensual recommendations made by international organizations such as NATO to be taken as a reference as far as acceptable thresholds are concerned or should the French armed forces redefine their own levels or should they even have to abide by the civilian regulations that are currently implemented in France?

First, at NATO level, the acceptable “moderate radiological risk” may be assessed as being rather high (50 centiGray/h). On the other hand, the French thresholds could be lower, since the dose that is considered as being admissible by the French civilian regulation is 200 milli sievert for the firemen and 1 milli sievert for any other person.

The issue of deciding if military personnel in charge of CBRN defense can be exposed to doses that are regarded as being high level within the civilian world or within NATO is still to be clearly defined. According to the choices that will be made, it is also possible to wonder about the protection equipment that will be best adapted to the armed forces.

Collective protection vs individual protection

The question is: is it relevant to always provide armored vehicles with collective protection system (COLPRO). That requirement could be justified when confronted to an enemy whose doctrine of employment included a massive use of tactical chemical and nuclear weapons (the Warsaw Pact). Now, in accordance with the evolution of the operational situation, is that type of collective protection, which is particularly expansive, still indispensable? The current armored vehicles programs (Leclerc Main Battle Tank and Infantry Combat Armored Vehicle) seem to have opted for choices that continue to favor collective protection systems.

In addition, the French army aviation opted for an individual type of protection of its helicopters’ crews rather than a collective protection of its weapon systems. That sort of dead end, which has been imposed by very heavy technical constraints, encourages the expansion of that option towards combat systems that are exclusively ground oriented.

1 Directorate for Combat Development of the CBRN Defense center
2 TTA 808, is that Army document which describes the generic enemy to be used during exercises.
3 One of the forces described in the TTA 808.
4 S4.1 (situation and simulation system), integrating NATO procedures (ATP 45) with French operational CIS (SICF, SIR).
5 Handbook for the employment of deployable CBRN defense specialized module.
Although the CBRN threat has changed very much since the days of Ypres, it still remains current, potentially during coercion phases and is highly probable during stabilization phases. It is thus necessary that CBRN defense meets its challenges by adapting itself to these threats while proposing efficient and appropriate solutions.

The French Army has been able to implement different pillars adapted to that type of events. It is now necessary to continue and adapt them to a changing type of terrorist threat and to the entire spectrum of the potential engagements.

Then at that time when all are seeking for potential joint synergies, it will be necessary that the Army keep it’s the mastery of its own specific capabilities. It will thus be required to conceive, within a joint or even combined framework, an achievable CBRN defense in front of realistic types of threats while keeping the ability to contribute to the populations’ protection. That work is conditioned by the definition of the level of acceptance of the radiological, biological and chemical risks that the military personnel can take, these risks being related to those accepted by the civilian society.

It is also necessary to reassert that CBRN protection begins with drill training and focused education that bring chances of survival, especially since future types of engagement, especially in urban environment, will induce a large decentralization of the actions to be undertaken. This implies that protection against CBRN threat will more and more rely on the individual ability of each combatant to detect a CBRN threat and to take the required conservatory measures. Similarly to knowing the basics of infantry combat - observing, using one’s weapon, etc... - the mastery of the CBRN know how that are not plenty and rather simple will require a progressive evolution of the mentalities.
Protecting Facilities while Being Committed Overseas

Recent commitments and particularly the Allies’ one in Iraq have shown the importance of casualties during the stabilization phases of a conflict. Psychological casualties due to stress and tiredness should also be added to the numerous KIAs and WIAs. This is explained in the FT 01 booklet “Win the Battle, proceed to Peace”, the opponent is clever and observes. He is looking for the weak points of our structures to attack them. Service support units and the maneuver ones are currently facing the same hazards.

For this purpose, protecting facilities has become a vital issue for an operation to succeed and for us to reach both our military and political objectives. Upstream choices, location, internal organization, sizing, filtering, restricted areas, concealment, and deception have a paramount importance and they enable to spare financial, logistical and especially human assets.

This is the reason why the “AGESTER” (land space management) function should be involved as early as the commitment’s planning phase in order to consider the force’s protection requirements and to provide good-quality support. Indeed, the protection of facilities is changing and it is becoming more sophisticated in order to meet conflicts’ recent changes, even to plan protection works and to implement engineer’s new protection capabilities within an international framework.

BY LIEUTENANT COLONEL MARC GLINEC, ESAG/DEP*

Latest developments

Current thoughts about the protection of facilities are fed with recent changes about conflicts, threats and awareness about weapons’ effects.

Conflicts have often become asymmetrical and an adversary often endeavors to minimize losses during a coercion phase in order to use asymmetrical stealth at best during the stabilization phase. For a force, it has become difficult, even impossible to make a difference between neutral people and enemies. These latter ones use media, their entanglement among the population, and their position towards elapsing time in order to endeavor to win wars.

In these conflicts, towns have become stakes; forces have to win the heart of cities, and the heart of populations, and to defend them against attacks. In cities, the numerous underground networks (water, gas, electricity, and sewers, subway...) that have also to be controlled - very often hinder engineer units from digging and setting up defilade position. Using existing facilities like buildings, and their cellars, underground parking lots, require new know-how in order to identify hazards and to fortify them if the force intends to use them.

New threats have to be added to conventional ones (shootings, grenades, mortars, artillery): crowds, either delivered or carried-aboard-a-vehicle IEDs (Improvised Explosive Devices), or suicide attacks, technological hazards... The Licorne force experienced how difficult it is to stem a crowd, very often led by some agitators, with a proportional relation that has nothing to do with conventional L&O (Law & Order) ones. Setting up physical obstacles alongside with the use of reduced lethality weapons should enable to reach the looked-for effect.

There is a range of possible - either reactive or preventive - treatments fit to each threat. For example, the presence of an adversary sniper requires having either the capability
of spotting him and shooting back or to protect ourselves from the effects of his weapon by setting up several layers of sandbags, or to prevent him from using his weapon by masking his view or by denying him to move to the locations that he would be likely to use by cutting down an hedgerow of trees, by destroying an abandoned building or by boarding up the windows that overlook the position. In order to adapt oneself to the areas to be protected and to the ROEs (Rules of Engagement), it is therefore vital to have a span of technical or tactical solutions available for each of these threats that could be used independently or jointly.

Eventually, knowledge awareness about the effects of weapons shows that the indirect effects of weapons, such as the projection of ammo splinters and building materials, blast or warmth rebounds are very often neglected, even if direct effects are often taken into account. Blocking a booby-trapped truck is not enough; an explosion's blast effect is likely to wound or to kill up to several dozen meters away, depending upon the charge. Thus, it is highly necessary to consider these various effects to organize spatially the area to be protected or the check points that secure its accesses.

Planning for protection

Even if there are numerous changes, the planning requirement for a location's protection is basic to meet this increasing sophistication; it goes from the selection of a site to its occupancy, as well as to its capability to change during the various stages of a commitment.

Selecting a site is the most important part of a security mission. Actions carried out by the various “AGESTER” (Engineers, Geography and NBC) components complement each other and are required as early as the facility’s planning stage. Cartography’s contribution enables to define the possible locations to put up units and the physical components linked to them, overwhelming views, accesses, plans... NBC experts enable to identify actual chemical, nuclear, bacteriological but also industrial presence or hazards. As far as they are concerned, engineers will deal with pyrotechnic hazards, existing networks, power and water supplies, material supply and with the state of local facilities used. The selection of a site will be a compromise that will also depend on the kind of units that will use it. A combat maneuver unit tasked to control a district could set up as close as possible, whereas a platform in an isolated area but in the vicinity of roads could be used for a logistic site, in order to grant it with a better protection. Thus, a dialogue should be favored among the various and numerous participants, so that selections could be carried out while being aware of drawbacks, advantages, and induced consequences regarding requirements, whatever they are: financial, logistical, power- or fluid-related, materials... and setting-up delays. It is about coping with the terrain for it to become an ally, and selecting areas that can be easily defended against probable threats. It would also enable to spare the human assets tasked to protect the site. Namely, we have to control our camps to better control the environment.

Once a site has been selected, a dialogue should start - even prior to setting up - between the unit, the G2, and engineers, in order to adapt current threats in the theater to the local level. Whatever a site is - horizontal (platform) or vertical (building) - it will be split into three areas. A sanctuary, with its weak points that will have to be protected, and with a very limited access; a buffer zone, which will be used by other non vital activities on the site; and a glacis enabling to observe and providing us with a reaction time. We also have to add the treatment of some other points: access to the site and check-points, observation posts or BPs (Battle Positions), shelters, ammo and POL (Petrol, Oil, and Lubricants) depots... As early as a site is set up, platform setting-up and security works will start depending on selected priorities and urgencies, delays...
but also allocated financial, logistical and local resources. As mandates go by, the threat is likely to change, as well as a site’s activity. Therefore, security should also do so. For a disposition to remain coherent, it is essential to draft a guideline about sites’ security, reminding threats and works in progress. These works should comply with STANAG 2280 that enables an allied country to consider a setting-up, while being aware of its protection level. As regards units that take over, they have to be perfectly aware of facilities’ protection levels: shelters, BP... Thus, units will endeavor to achieve facilities, like shelters or guard houses meeting the various security levels in this document. Thus, we have to define common principles and procedures to protect our soldiers’ lives.

New and future engineer capabilities

Currently, engineers have new capabilities and future ones under study that will enable them to meet increasing combined commitments.

As regards new capabilities that will soon be granted to forces, “EGAME” (earthmover) and “EGRAP” (earth-moving equipment) vehicles will enable us to carry out terrain organization works. Their mobility, as well as their multiple capabilities: bulldozer, scoop loader, mechanical shovel, enable to have increased reactivity and flexibility, as much when completing platforms as when carrying out security works. As regards armament, the “MODER” weapon system can be used with its various, likely-to-cause-injury GALIX 4 ammo and soon with the 19 warning-shot and the 46 kinetic and irritant ones, in order to provide with a lethal or non lethal flexible response, within the depth of the glacis that surrounds the site. When firing this weapon, a man-in-the-loop warrants us that its use will meet the level of the threat. There are numerous studies carried out in the protection field to grant engineers with new capabilities. In particular, I just want to mention the “SPECTRE” (land forces’ protection system) that will be a weapon system implemented by a very small number of operators to observe, control, deny access to access routes as well as open terrain areas - in particular on urbanized terrain - in front of dismounted personnel clearly identified as threatening our forces’ disposition. The protection disposition will grant committed forces with a modular system that can be used by itself or integrated into a surveillance network; it will enable to have progressive effects like warning, marking, and immobilization or putting out of action in the area to be observed by using lethal or non lethal weapons, by providing men with a decision-making role and by taking into account the variety of operational environments. This system will be organized in such a way it could be set up and relieved by a squad-size team within an hour. Current requirements to provide a disposition with guard houses, shelters, blocking systems against crowds or against vehicles, screens to conceal our activities, facility-reinforcing kits enabling to meet supported units’ requirements in order to protect them with well-known and tested efficiency standards within shortest notice.

Protecting facilities is very topical and it keeps changing in order to fit to modern conflicts, to their asymmetrical threats, and to the combined aspect of our commitments. The “AGESTER” function should be involved as early as the planning phase to provide us with its multi-expertise, a requirement when selecting a site, and when organizing it internally. On this account, the French Engineer School has started a review aiming to provide engineer battalion commanders, and platoon leaders and squad leaders with a method and with updated data to provide them with the best possible support in the field of committed units’ security. During this year when we extol the virtues of Vauban, the commitment of our engineers, experts in protection through terrain organization, should illustrate the popular saying “any town besieged by Vauban is a seized town; any town defended by Vauban is an impregnable town”. Even if it is impossible to protect oneself permanently in front of the whole threat’s spectrum, only a deliberate, organized, and concerted protection is likely to provide our soldiers with a feeling of security, which is essential for their physical and psychological rest, and with an efficient protection, while displaying a deterrence capability towards our adversaries.

Protection against Air Threat

Surveillance, deception or destruction UAVs have appeared with their very first new usages in the Middle East. Kamikaze civilian twin-engine aircraft carrying or not rudimentary combat loads have also been reported. Considering the low cost of these vectors, this kind of air threat will no doubt develop in the coming years. However, in this context of non-conventional courses of action, the vision of gaining air superiority, as it has been perceived for some decades, should be clearly understood. Let us remember that the US held air superiority4 on their national territory on Sept 11, 2001.

We actually use to consider that the Air Force efficiently counters the air threat. However, its action cannot provide the land forces with a full protection guarantee. Air Defense Artillery (ADA) is the only one capable to operate in a permanent, immediate manner, close to troops. ADA is, today more than ever, needed to complete the action of our air colleagues. We actually observe both the emergence of the enemy courses of action previously referred to and the will to be protected from rockets, shells and other artillery ammunition2. This should give back to very short range ADA a full role in the spectrum of our forces protection against air threat. The future of this branch falls then in the development of a system encompassing self-protection and the capacity to deal with RAM threat.

The author of the present article is coming from the assumption of air superiority being gained in all areas where the force is to be deployed. His reflections will not consider threats represented by ballistic missiles which will be in the very next future taken into account by the Air Force3.

From combined arms anti-aircraft fighting to MARTHA

The role of surface-to-air defense is to enable the conduct of land operations in spite of an enemy air threat. In order to provide the force with an efficient protection, ADA should provide a complete air cover, encompassing all altitudes in the area where land troops are located.

A fundamental reflex act

Despite their efficiency, the specialized assets of the various services are not in a position to grant on their own, permanently and on the full theater of operations, the protection of land forces face to the air threat. Starting from the lowest levels, the implementation of protection measures with the organic observation, alert and fire assets is required. The combined arms anti-aircraft fight (LATTA) requires a collection of basic know-how that any combatant should gain.

The absence of engagement of our forces against an air enemy and the personnel specialization are part of the wrong reasons referred to in order to explain that this reflex act has been forgotten. The recent lessons learned in respect of operations demonstrate however that these basic know-how are efficiently contributing to the protection against the air enemy and should in no way be neglected4. LATTA is not designed to complete the specialized ADA assets but really to contribute to self-defense of the deployed land force5.
About the need for a very short range ADA

We should consider the threat referred to in the preamble as a priority for low layer surface-to-air defense. It will be the only one capable (and tasked) to protect the force. This will be achieved through neutralization or destruction of these vectors for which fighter aircraft and medium range ADA will not be employed. Taking into account environmental constraints, medium-range air cover will indeed always be permeable to low altitude infiltrations in particular those conducted by helicopters and UAVs.

In addition, in current conflicts and insecure areas, the employment of VAB T20-13 as the MISTRAL firing post vehicle actually appeared as a temporary solution. It was however enabling to mitigate the capacity gap generated by the withdrawal of ROLAND. VAB protection at the level of firing posts offers possibilities of employment in the areas close to contacts; it also enables the use of ADA guns in a context of close interweaving with a frequently versatile population. This use answered to an operational requirement voiced by CFAT in 2005 in the scope of Operation Licorne. The operation launched in Lebanon in 2006 reinforced this need.

MARTHA, or the achievement of a real 3D co-ordination

In coercion, the combat of land forces takes a new extent in the third dimension. It should be considered as a real space for maneuver. Current operations are highlighting the absolute necessity for the combined arms commander to have available a complete integration, in real time, of detection, control and firing systems in particular on low intensity theaters. Air threats should be dealt with quickly. All assets required to counter them should be efficiently managed. Both requirements demand a real-time analysis of large batches of information. MARTHA system has then been developed in this purpose for the army.

This system has been designed for the conduct of an air combat being very reactive at the level of the land component. Thanks to the establishment of a new coordination center, i.e. CNHM (MARTHA upper level center), command and control systems of the whole 3D can be connected. In an independent operating mode (in case for instance of a disruption of all means of communication with the air organization), the CNHM can technically take full responsibility for direct control and engagement of hostile targets. As a real force multiplier, MARTHA is a modular system, and, as such, configurable as needed. It will offer to the theater commander an overall and precise vision of the air space over his battlefield.

The “surface-to-air” gun to counter RAM threat

The force is confronted today with a permanent RAM-type threat. It is not easy to be prevented from it. These, even limited, attacks can obviously generate casualties but also have a very huge impact on the execution conditions of an operation (media or political impact). RAM-type attacks are expected to develop on theaters, due to their numerous “operational” advantages (low cost and easy-to-use equipment, offering a wide flexibility of employment). This threat reduces the freedom of action of a force by imposing it permanent security constraints. It affects the morale of personnel in threatening them during “rest” periods in barracks. Finally, it presents an excellent cost/media and political interest ratio.

To face it during the intervention phase, up to now, the armed forces were resorting to CAS type missions, counter-battery ability or traditional protection measures (camouflage, dispersion, mobility etc.). We have nevertheless to report the relative inefficiency of protection assets and measures face to an asymmetric adversary. This one privileges stealth of his actions and immersion within the population. In these conditions, for lack of actions of destruction or neutralization of adverse launchers, which are still hypothetical, it is necessary to orientate towards more efficient actions.

As the most satisfactory solution, from an operational point of view in stabilization contexts, is the C-RAM concept. It consists in attacking the ammunition on its trajectory before impact. Two specific cannon-based systems have been developed up to a significantly advanced stage. Phalanx System selected by the US and the UK constitutes...
a partial solution to meet an “operational emergency”; deployed in Iraq since May 2005, it would be efficient up to 2,000 m against mortar shells. Skyschield System is the subject of a strong interest from Germany which has available a significant budget for its preliminary study plan.

In front of the revealed and current need to fight the shell and rocket threat on a deployment theater, the “surface-to-air defense” gun constitutes an adequate response. The French armed forces got aware of this threat and participate in this field in a certain number of international working groups. However, no development has been launched up to now.

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1 That degree of dominance in the air battle of one force over another which permits the conduct of operations by the former and its related land sea, and air forces at a given time and place without prohibitive interference by the opposing force (AAP6).
2 RAM: Rockets - Artillery - Mortar.
3 From 2012, medium range ADA assets are transferred under sole command of the Air Force. ASTER missiles, contributing to these assets will be capable to intercept ballistic missiles.
4 In this respect, the training course delivered in 17th FA battalion in Biscarrosse should be attended by all units deployed on an operational theater.
5 Concept of combined arms anti-aircraft combat (2005 issue).
6 MARS project with MISTRAL missiles superstructure-mounted on an armored vehicle was also abandoned.
7 Translator’s note: CFAT: Land Force Command.
8 Land force parties involved in the vertical dimension (field artillery, ADA, UAVs, Army aviation).
9 The main RAM types used up to now were first light and medium mortar shells (60 or 81 mm). These are very easy to operate, technically simple and cheap. Then, have been used rockets of various calibers (homemade or Soviet technology like Katioucha or Qassam rockets used by Hezbollah and Palestinian armed movements against Israel...).
10 Close air support.
11 The LPWS (land-based Phalanx Weapon System) weights 26 tons and is trailer mounted (articulated truck). It includes a Gatling-type turret with 6 rotating 20 mm gun barrels (3,000 to 4,500 rounds per minute) associated with search and track radars, a thermal imager and a sound and visual warning system. Capable to be integrated in a C3D global network, Skyschield system was successfully tested against mortar shells. In the site protection version, the system includes a C2 system connected to two sensor units (radar, TV, IR and laser range finder) and four 35 mm guns. It defends a 400 m by 400 m area.
12 Translator’s note: infantry and armor.
13 SATCP: Very short range air defense.
14 SAMP/T: Theater medium range air defense.

No system on its own can efficiently counter all types of air threat; it is necessary to use a combination of complementary weapons in which the weaknesses of a system are compensated by the capacities of another one. Deploying such a combination, it is vital to have available assets for command & control, quality communication in order to establish a coherent defensive system and not only a collection of weapons with various characteristics and capabilities. MARTHA will provide the disposition of air defense protection with this coherence.

The most recent conflicts and crisis reveal that the threat in the third dimension is noticeably evolving. It is of primary importance to bring an adequate response to counter it. The new contexts of intervention give back all its interest to a gun system with fire control, both mounted on wheeled armored hull, coupled with a short or very short range missile. This system is designed for surface-to-air defense of “contact” combat arms units. It would then be an especially efficient addition to SATCP, MISTRAL and SAMP/T.

Finally, in current operations and, in particular, during the stabilization phase, the air threat takes a new dimension through the use of RAM by asymmetric forces. ADA shall be capable to get assets able to fight this proliferation: accessible at low cost to large numbers, it is seriously damaging the integrity of the deployed force. By encompassing this capacity, the future system here above referred to could be the pledge for the future of very short range ADA which is an indispensable component for the protection of a force.
Defeat Improvised Explosive Devices (IEDs)\textsuperscript{1}

One of the Prerequisites for the Force’s Freedom of Action

Very few are the days when media do not mention attacks or terrorist attacks carried out with improvised explosive devices (IEDs). Resorting to this course of action appears to be generalizing. Subsequently, in the Iraqi and Afghan conflicts, the IED became the preferred “weapon” of the insurgent to strike multinational or governmental forces.

Within a couple of years, the IED turned from the stage of home-made device built with ammunition salvaged in depots to the stage of multiple remotely controlled devices, sophisticated and “smart”, capable of discriminating targets. From now on, attacks using static or mobile vehicle bombs are frequent and those conducted by kamikazes from suicide vehicles or explosives belt belong to the most difficult to prevent.

IEDs are employed by an adversary who has primarily the capability to adapt to our tactical and technical procedures and even to our protection counter-measures. Then, the IED threat represents more than ever a full fledged course of action, in constant evolution, resorting to more and more elaborated processes.

“Defeat IED aims at gaining and maintaining freedom of movement and maneuver. Fighting IEDs puts together the full collection of indirect and indirect actions, either of an offensive or defensive nature conducted by the forces. These actions aim at preventing from the IED threat, dealing with it and reducing its effects\textsuperscript{2}.”

Subsequently, defeating IEDs perfectly fits in the topic of force protection. In this respect, it contributes to the freedom of action, which is an essential condition to achieve the political goal of any military operation especially in stabilization phase.

\textbf{by Lieutenant Colonel Jean-Henri Pinot, CDEF/DEO}

Let us not be ingenuous, the IED through its very design, is made to kill. It is in the same time a defensive “weapon” and an offensive “weapon”. Its lethal effect is only a means among others to meet the objective looked for.

On the one hand, the terrorist, the insurgent, the guerilla, the rebel, the adversary may use it to send warning signals in order to preserve his spheres of interests. On the other hand, they may use it as a weapon to kill, to harm or to get free of anything preventing them to achieve their goals.

In any case, ranging from large scale terrorist action to parcel bomb via the so-called “catastrophe” attacks, the concept of “zero dead” no longer exists.

This capability to deliver deadly strikes (flash action - harassment - attrition) should be taken into account in the scope of our safeguard and protection action in support of the force but also of populations (from host nation, neighboring countries and the homeland)

The responses to this threat are of two kinds. “Before IED event”, they relate to offense actions either direct or
indirect on supply routes and operation networks. “After IED event”, they relate to defense actions characterized by processing and reducing IED effects on people and goods.

The entirety of answers is supported by the “doctrine, training, technology” three-pillar structure. It is continuously fueled by the exploitation of lessons learned (LLs). Especially true in the scope of fighting IEDs, these three elements cannot be dissociated. The various lessons learned highlight the key role of training of men and women committed to this fight. But such commitment cannot be achieved without doctrine as a guide and technology as a tool. The aim is really more to gain the understanding of operations rather than an operating knowledge.

Understanding the “against what” to be protected against it

NATO defines IED as a device placed or fabricated in an improvised manner incorporating destructive, lethal, noxious, pyrotechnic or incendiary chemicals. It is designed to destroy, incapacitate, harass or distract. It may incorporate military stores but it is normally devised from non military components (AAP 6).

In other words, IED is a device fabricated in relation to the effect(s) looked for. The motivations for its use are mainly of a kind that may be political, ideological, religious, identity, mafia-like or even profit...The action is applied on a target either human or not, static or moving, protected or not, selected or random. The word “improvised” clarifies that the device fabrication is not realized in an industrial process. However, this does not in any way detract from its sophistication or cleverness.

The fabrication mode of the device is dependent on a number of parameters related to the desired end effect, the target, the area of use and the availability of components or people involved. The analysis of IED events (frequency, location, timing, type...) and the processing of clues related to the device setting-up (traceability of components and modes of fabrication) enable the understanding of the deadly “mechanism” of these actions.

Typical composition of an IED

The French doctrine classifies IEDs in two kinds. On the one hand is the IED by nature, i.e. designed for this use. On the other hand is the IED by destination, i.e. a device diverted from its initial employment. This can be the case for mines, shells, fuel barrels... or even suicide attacks from an aircraft, a fuel tanker vehicle or from a diverted cargo boat.

In most cases, an IED is composed of the four main components listed hereafter:

• A payload composed of energetic or noxious material, which may be explosive, incendiary or chemical. In order to generate a precise end effect (fragmentation, perforating capacity...), the payload can also incorporate a particular coating or elements (balls, glass, nails, steel plate...).

• An activation system designed to activate the triggering system. It is an activation that may be immediate, remote (optical, radio, GSM, etc) or electronic or physical timing, either fixed or random.

• A triggering system for activating the payload when the target enters the lethal zone (Kill box). Such system can be triggered by an operator from a remote control device, a manual or electrical device, an action on a string or a wire or even a distant fire. It can also be activated by involuntary action of the target itself (mechanical, electrical or optical) or by a device with electronic or physical timing, either fixed or random. Finally, a direct view of the target is not required as a video camera or a web cam are sufficient. In addition, the combination of several triggering systems may free from possible counter-measures implemented.

• A deception element: camouflage. This element aims only at putting off the scene or dupe the target and the means of protection, detection or intervention. The attack success depends on that. The immediate environment of the target and the operational context in which it operates are frequently determining the kind of camouflage to be used. It can be prepared in advance (fake rock) or be arranged on site (IED buried into garbage or in the ground...). “Wrapping” the IED may take various shapes and looks, ranging from the trivial envelope to the explosive-belted kamikaze via the tanker truck or concrete vehicle loaded with an incendiary product or an explosive material.

But the employment of such devices also responds to various tactical aspects or operating patterns

Subsequently, although frequently laid on the ground or buried, the IED requires a vector represented by a vehicle, an individual or even an animal. The selection of a vector is varying in relation to its rapidity, possible accesses to the target, payload volume but also and mainly of its capacities to go through the detection and protection elements.
Devices may be combined or connected together to cover a larger area of action or to enhance effects. Some may also be arranged to cause "extra terrorist attacks". The IED is employed at tactical level in the scope of complex ambushes (stopping device, attack of CS or CSS elements, approach and escape routes) or even in support of large scale operations by saturation of protection and intervention systems.

In addition, on a single location, an IED may be used as a decoy, as deception of detection and protection means then concealing other IED systems which are more powerful and deadly. The IED should be considered as “a lethal weapon” available to an adversary who looks for keeping his freedom of action or defending his interests in using it through offensive or defensive courses of action.

A threat being the “background noise” of any commitment

Asymmetric conflicts and terrorism development have noticeably increased the threat related to improvised explosive devices. This threat is already constant and the somehow unpredictable aspect of its activation makes it more formidable. So far, the threat is not new but it is more and more sophisticated and adequate to the commitment patterns of the so-called “powerful” armed forces, even if older techniques and technologies are still employed.

In addition to the main characteristics of the IED threat defined in the joint doctrine document4, in our approach of force protection, we should not forget some characteristics inherent to this treat.

Selecting location and time...

The adversary or the enemy, either he is a terrorist, insurgent, guerilla, millitant or belonging to armed bands, either known or spontaneous, can “choose the location and time”. This considerable advantage against all what can be undertaken in the scope of an overseas operation and especially during the stabilization phase, requires to take “the lead”. This is expressed by the capacity to constantly adapt our behaviors and procedures to the threat and by the control of reactions known by all.

The adversary is also used to “reactive adaptation”. He observes, analyzes, processes and adapts to our procedures. Subsequently, resorting to IED enables him to affect, in particular, mobility and reaction capabilities of the force. The force is actually obliged to implement enhanced measures for protection and assets conservation. This changes the force's media communication about the situation progress into communiqués justifying repost or coercion action... He knows that for contributing nations, these constraints are translated into additional budget charges due to troops strength, duration of commitment as well as protection requirements in terms of equipment8. But is not the psychological impact on the public opinion the most important?

In a known environment...

We have to observe here that the IED threat draws an advantage from most criteria defined by physical and human geography, in other words, from the environment. The adversary is “at home”. He knows the favorable criteria and the weaknesses of his environment, he uses them either as stakes or as a propaganda vector for his actions, his goals and his objectives sometimes within the population and with its support sometimes directly against it. The adversary is in a position to exploit the terrain features, urban areas and climate constraints to conduct real war operations (operations of counter-mobility, attrition and harassment, ambushes...) against the so-called “occupation” forces and government forces.

An endless material resource...

Resources in explosive materials and devices are numerous and diverse. Attacks by IEDs during the Iraqi and Afghan conflicts are demonstrating it every day. How can so much explosive be available since the beginning of these conflicts? Some attacks (series of ambushes, large scale demolition) are implementing very large quantities of explosives, in low-frequented places, of hard access, turning complicated and vulnerable the execution conditions of these attacks. Shortage of ammunition on the theater of commitment or supplies control from abroad cannot be envisaged in the short term.

In addition, belongs to possibilities the risk to see the development of a specific threat from CBR8 improvised devices. Put in place or achieved by hand, these include a main or additional load including a radiological, biologic or chemical agent. Through the recourse to this kind of process, the adversary may overpass a threshold either quantitative as the number of victims is concerned, or in terms of media, psychological even political impact.

A free access to shared or exchanged information...

Lessons learned and attacks analysis reveal that fabrication processes and setting-up procedures are migrating from a conflict to another. This is done by the speed of Internet communication but also by infiltration of small groups in charge of transferring know-how. Therefore, the threat is not only limited to the employment of such IEDs but it is levered by the capacity of the adversary to share information and exchange pieces of intelligence via networks.

Immediate effects...

IED may be either an EFP (Explosively Formed Penetration) of some hundreds grams or a RSB (Road Side Bomb) of several hundreds kilograms. It provides anyway a capability to kill without big risks and at a lower cost. Moreover, it associates a high psychological and immediate impact.
But the IED is not invulnerable

Indeed the results of fighting IEDs are actually convincing in respect of attacks anticipation, detection and intervention on devices before they are serviceable, processing events and force protection. Intelligence (collection, processing, information sharing and intelligence exchange) holds a major role in it. It is mainly focused on the holistic knowledge of networks acting before the IED event is triggered and the understanding the adversary’s courses of action.

However, technological progress opposes more and more the constraints and imperatives of combat engaged by the force. This is expressed in particular by additional and complex precautionary measures, assessment of collateral damages, increased risks for the force and the population, technical constraints for combatants, appropriation time, a reactive adaptation of the concept and the conduct of operations... All measures that the adversary does not need to develop and which can de facto contribute to the efficiency of his war goals.

Counter-IED fight (C-IED): a multi-faceted shield

More than knowledge, the aim is to understand. The principle of anti-IED fight is to operate simultaneously both in space and in time. It is sometimes beyond the very boundaries of the conflict (principles of action globalization and actors’ synergy) and along the full IED implementation chain (principles of anticipation, action permanence and continuity).

To efficiently ensure force and populations protection, C-IED fight aims at three objectives:

- **The threat prevention**, ahead of operating the IED in order to prevent from its use. This assumes an action on the resources in ammunition and explosive materials and mostly on dismantling networks ending at the IED;
- **The tactical processing of the threat** and IED as such;
- **The reduction of IED effects** on populations and on the force while not reducing the capability to intervene and conduct its missions by the latter.

Doctrine, technology, training and lessons learned (LLs)

Defeating IEDs is based on known fundamentals such as doctrine, technology and training. In fighting IEDs, these elements cannot be dissociated one from another. Lessons learned are playing a role of a kind of exchange engine between these various fundamentals. Processing the various lessons learned highlights the key role of training of personnel committed in this fight, operating adequate “tools” in a framework of flexible and reactive employment (take the lead).

It is indeed of primary importance to be supported both by a “reactive” doctrine, a full and adequate training in respect of situations encountered and a technology in line with the force requirements “in the field”. Processing and dissemination of lessons learned ensure the interconnection of the whole.

LLs outcomes are applicable to the three-pillar structure “doctrine, technology, training” through the following axes of effort:

- **Adaptation of courses of action and technical and technical procedures** as parries to IEDs but also offensive courses of actions focused on IED networks;
- **Development of new technologies** - especially related to detection, intervention and protection- while enabling the conduct and execution of the initial mission;
- **Improvement of operational capability of the force by an operational advanced training** “sticking to the ground”.

Specific applications to protection in the scope of C-IED fight

The implementations of these LLs and related works conducted in the scope of a C-IED fight especially relate to the force safeguard/protection.

**Doctrine and intelligence**

- Drafting a “doctrine corpus” dealing with the fight and C-IED protection. All responsibility levels are dealt with and the CD ROM of anti-IED fight awareness is distributed.
- Development of means of information collection and scientific analysis of IED events in order to act on networks building the IED setting up chain (processes for traceability of explosives, components, ammunition, channels...)
- Collection of procedures for information sharing and intelligence exchange (data bank, dissemination through short loops, organization of adequate cells, IED intelligence reference system...).

**Technique and equipment**

- Development of means of detection, investigation, threat characterization, localization and intervention more or less distant from IED (robots or UAVs, video cameras and day/night vision goggles, equipment of specialized intervention teams, systems of detection of electronic components, processes for remote analysis of IED composition, IED decoy and jamming systems...).
Implementation of individual or collective devices for vehicles protection. However, this remains far from the whole range of vehicles developed in Iraq by the US Army, and from the DINGO II developed by Germany. These vehicles have in particular a stem-shaped hull reducing blast effects, a high ground clearance and a low center of gravity.

Use patterns of jamming systems for self-protection and protection.

Development of protection equipment for sites and facilities.

Training

- Expression of training needs in the framework of a training which differs according to the personnel level (individual soldier, units, HQs, specialist teams)

- Enhancement of operational readiness of forces, especially in respect of procedures for planning, conduct and execution of movement and staging, of response in case of suspicion or IED detection, behavior in case of IED attack, of personal, sites and facilities protection.

- Efforts on acquisition of individual and collective know-how in case of attacks by IED (incident management, response capability, protection, assistance to the injured).

Facing new belligerents, acting and living amidst populations who became actors and stakes, military action should constantly evolve and quickly adapt to find a response to the changing enemy courses of action. Fighting IEDs is at the very heart of the issue of the force safeguard and protection. The main difficulty to oppose the IED threat lies in the large variety of IED fabrication methods and in the utmost of ease with which they can be assigned a target, they can be set up and modified in the most simple way.

The challenge and the stakes are important. However, compliance with human rights, international law, strategic constraints and imperatives, the host nation interests as well as the consideration of environment-linked collateral damages should remain preponderant for a nation such as ours.

Understanding more than knowing the environment where the force operates is one of the priorities to conduct a comprehensive combat against IEDs.
Organization of Preventive Health Care to Support Personnel in Overseas Operations

Changes in structures and strengths have been carried out these last years in the armed forces. These changes, especially since the stoppage of conscription, have turned upside down their structures. Consisting in professional soldiers, resources are scarce, and subsequently, worthy. We should then preserve their operational effectiveness in all circumstances. Operations outside the national territory are no longer conducted as they were in the past. Actually and in principle, the military community accepted in full awareness the specificities and risks of its trade. Despite that, society evolutions made that the military community now demands and is in right to benefit from working conditions and environment close to the conditions of the civilian sector. It is then the institution’s responsibility to bring answers to these expectations. In other words, the number of consented or even accepted risks is continuously decreasing. These risks should, as a minimum, remain under full control.

Now, personnel in operations are more and more confronted with either real or potential risks. These are all the more difficult to control that they have not been anticipated and that media may voice them. In addition, they can relate to imagination...

Moreover, the military institution does not avoid the phenomena tending to destroy a sense of individual responsibility, to the benefit of a more diffuse and convenient, either collective or state responsibility. Then, everyone thinks they find in it a solution or a recourse in case of a problem. Subsequently, any pathology happening in the run of the professional career of an individual is necessarily attributed to the institution and justifies then compensation. From this point, the labor world experiences an increase in its legal claims. Similarly, the armed forces are not protected from this tendency and subsequently legal actions are increasing. Procedures are often long, painful and necessarily tainted with suspicion when expectations have been disappointed.

The command structure has then a double-fold responsibility: it must meet its operational imperatives which may generate risks while having to minimize them. On the one hand, it is then up to it, at all levels, to grant personnel the best security and protection conditions. On the other hand, it has to preserve its interests while safeguarding the institution’s ones.

Besides that, the natures of conflicts where our armed forces are intervening become more diversified. The military coercion action is often disappearing to the benefit of law and order enforcement mission or even of humanitarian actions.... In such a context, personnel protection is managed according to different priorities and then follows different rules. In these, combat-related risks and environment- and employment conditions-risks are equally taken into account.

Being aware of these evolutions and subsequent responsibilities, the Armed Forces Joint Staff (EMA) established in September 2003 a “prevention, safety and environment” (PSE) section. One of its first tasks consisted in providing a legal and formal framework to safety and occupational health in operations (HSO)².

On September 13, 2005 a guidance document 1826 /DEF/EMA/SLI/PSE” related to prevention organization in support of military personnel within forces in operations” more commonly called HSO instruction³ was published finally filling the regulations vacuum in this matter. From now on, it enables in a defined regulation framework to organize medical prevention in support of servicemen in operations.

By Pharmacien en chef Gilles CRÉHANGE III, Médecin en chef Pol DÉVRE IV & Médecin général Joël MARIONNET V
HSO principles

The prevailing principles in HSO organization are quite simple in their concept.

First principle: HSO primary goal is to preserve the health of personnel in operations outside the national territory, while preserving individual interests and the credibility of the institution.

Second principle: in order to optimize, the health situation of forces, we must anticipate the conditions of their settlement. To do that, the collection of information regarding the deployment locations should be as exhaustive as possible. Collecting information of a medical interest involves history and geography as well as the economic and industrial situation. It also relates to fauna and flora characteristics. It then achieves a real defense health watch.

Third principle: prevention should be applied fully and entirely, however without hindering the operational mission. Subsequently, we should make a clear distinction between the engagement phases and what we could designate as daily life periods.

During the engagement phases, the command main priority, independently of the operation success, remains to be as cautious as possible to avoid any immediate affect to the bodily integrity of its troops.

Outside the engagement phases, prevention should be applied in a way to be as close as possible to what it is in the continental homeland. It would be unrealistic to apply strictly the same work regulations. However, it is required to get as close as possible to them in regard of the constraints and realities in the field.

Subsequently, prevention organization aims at being both professionalized and also easy to manage and easy to implement. Like on the continental homeland, prevention experts are assisting the various command levels. The tasks identified in overseas operations are the same as on the homeland, as well as the obligations of the various actors.

Fourth principle: besides its preventative role, prevention in operations has a vocation to monitor the individuals’ rights and preserve their further possibilities of claiming. To achieve that, it should be based on knowledge of risks encountered and damages suffered. Subsequently, a real traceability of individuals in overseas operations is required. It is a prerequisite to an acute assessment of a disease imputation and its consideration for a possible compensation.

Fifth principle: prevention in operations has also a prospective role. Reports of lessons learned should enable to improve the system and imagine innovating solutions.

Sixth principle: prevention in operations has a corollary: environment protection in operations.

Typology of risks being covered

HSO directive defines the typology of risks being covered. These relate equally to two parts: on the one hand is the biologic environment, either created or natural, i.e. infectious and parasite-related diseases ; on the other hand is the industrial or technological environment in all its components, either biologic, or chemical or nuclear. Are also concerned the risks inherent to safety and occupational health. In fact, either it is about accidents or about diseases, the specific or non-specific risks bound directly or indirectly to military occupational activities are taken into account.

The HSO instruction

HSO instruction defines the regulations framework and the joint organization for medical prevention.

First of all, the main terms being the object of the instruction have been defined.

Operation: “operation should be understood as a combination of military actions conducted by a force which can be joint, even combined or multinational in a geographical area called theater of operation. It is realized in a given space-time frame. A nominal designation is usually allotted.”
Health and safety in operation: “health and safety in operation are a prevention approach aiming at ensuring as much as possible, before, during and after the operation duration, the physical and psychical integrity of the individual which could be damaged by his activity or the mere fact of his presence on the theater of operation. It is supported by a set of rules or measures to be applied during all the operation”.

These definitions are to be included in joint publications (PIA) and are about to be translated in order to be included in NATO glossary.

Field of application

The field of application has been carefully bordered. It relates to military personnel participating in an operation such as defined above. It is then reminded that the first responsibility lies with the operation commander who “watches, in compliance with directives which may be given to him or specifications included in the operation order, over the application of the regulations the most adequate to ensure safety and health protection of the servicemen in accordance with the nature or the execution conditions of the activities.”

In some respect, the operation order is the road map received by the commander. It will from now on precise the rules regarding health and safety as well as working conditions (HSCT) which are applicable. Whatever they are, these rules must “preserve in any circumstances, the operational combat effectiveness of the forces”.

HSO joint organization

HSO instruction is refined in time and space. It splits prevention organization into three phases, before, during and after the deployment of troops in the field. The planning phase is realized at the top level. It is carried out in close cooperation with the assistance cell for decision-making in respect of chemical, biological, nuclear risks (CARBC) and the PSE section. It includes the thorough analysis of risks factors on the theater where the forces are to be deployed. It then constitutes an important step in the preparation of the OPORDER.

Prevention on the theater of operation is actually organized during the deployment phase. As reminded by the instruction, HSO organization cannot deviate from the regulations ruling the general organization of prevention as defined by decree n°85-755 dated 19 July 1985 and its amendments as well as the departmental order dated 15 April 1997.

Subsequently, the various hierarchical levels are responsible for prevention vis-à-vis their personnel and should be given such sense of responsibility before taking on their roles. Organization of prevention in operation is simple and rational.

At the top, the Chief of Staff of the Armed Forces, in charge of operations outside the national territory, inspires, activates, stimulates and monitors the prevention policy. This responsibility is exerted through the PSE section. Its current leader, a pharmacist belonging to the joint medical corps, also takes on the role of central prevention coordinator. As such, he has a sole interlocutor in the field: the theater prevention coordinator. He advises him and forwards him his directives.

This theater prevention coordinator organizes and manages prevention on the theater. He should have a comprehensive and synthetic vision of what is done in this domain down to the lowest levels. He knows all prevention actors (medical and paramedic teams in charge of prevention, fire fighting officers, road safety senior officers, physical training officers, experts in radioprotection).

The phase of lessons learned, synthesized at the top, is used to draw a statement of prevention actions carried out, to assess their grounds and then to draw a statement of morbidity and mortality. It also has a prospective goal. In particular, it is about, from environmental and sanitary assessments, keeping a conditions survey in a claims perspective.

Toxicological and environmental assessments, a structural issue

Evaluation of potential risks run by personnel is mainly based on a good knowledge of the environment where they will operate. The aim is to assess the action of the environment on the individual by being capable to qualify and to quantify toxic substances which are present. Forces are also required to preserve the environment in operation, by complying with certain of our international obligations (Bale Convention...). We should then have available an environment status report at the arrival as well as at the departure of a contingent. The aim is in this case the evaluation of man’s action on the environment.

Toxicological and environmental assessments should then be carried out, as stipulated in HSO instruction, by military labs. This is required because it is all about areas which are deemed dangerous; and also these labs should have such expertise as well. The sole labs meeting these requirements are the Navy surveillance and expertise analyses labs (LASEM). However, in the long run, it is not possible to systematically call on these structures. With a reduced military staff, they are heavily committed in support of the service they belong to and which finances them. These labs are also by nature less concerned by continental operations outside the national territory.

However, a solution has been successfully experienced in other places. Armed forces comparable to ours (Germany, the Netherlands, the United-Kingdom, Canada, not to forget the USA) have environmental toxicology labs dedicated to...
operations outside the national territory (OPEX). These labs are part of the military medical services where they exist. The merit of these structures is that they are reactive, optimally equipped. Considering the multiple commitments, they are employed full-time.

It would not be utopian to envisage operating such a lab meeting the current operational requirements.

I This article was already published in “Médecine et Armées” magazine. The authors are keen to thank its publishing committee for their authorization to publish it in the Doctrine review.

II Health & Safety in Operations

III Pharmacist (OF 3/4 NATO)/Service de santé des armées - French Joint Forces Medical Corps.

IV Physician (OF 3/4 NATO)/Service de santé des armées - French Joint Forces Medical Corps.

V Physician (OF 6 NATO)/Service de santé des armées - French Joint Forces Medical Corps.

VI Publications interarmées = joint publication

VII Translator’s note: in France, the Joint Forces Medical Corps (Service de santé des armées) includes all medical corps.

VIII Joint Staff of the Armed Forces.

I (1) Decision n°443/DEF/EMA/OL/2 dated 6 March 2003 related to the establishment of a "prevention, safety, environment" cell.
(2) Instruction n° 1826 /DEF/EMA/SLI/PSE dated 13 September 2005 related to prevention organization in support of military personnel within forces committed in operations.

“Health and safety in operation (HSO)” is a recent concept formalized by an instruction issued under EMAVIII seal, responsible for preparation and conduct of operations.

Prevention, in the continental homeland as well as in operations outside the national territory has become usual. As it has been checked in the field, all actors feel concerned and are keen to make HSO instruction live. Adjustments, establishment of new structures refining prevention to respond to national or international requirements may have to be carried out. It also appears that in these necessary changes, the French Joint Forces Medical Corps occupies a preponderant position.
The Protection of a Deployed Air Base

The protection of the force in operation, so as to preserve its employment and efficiency, encompasses the whole set of measures and assets intended for minimizing vulnerability of personnel, facilities, equipment and operations when facing any threat and in all circumstances. The protection of combat aircraft in flight being an integral part of the mission, protection of the force is here relevant for the protection of human and material assets of deployed air bases, which are actually vital centers for performing air operations.

The protection of a theater air base is one of the essential links for preserving deployed air power. It must be effective as early as deployment until disengagement, and be in phase with the tempo of operations and with the context in which these are performed, while being tailored, if necessary, to the degree of risk allowed by the operational command.

Threat assessment and management

It is functionally impossible to guarantee complete physical integrity of a deployed air base while ensuring continuity of air operations. Consequently, it is necessary to assess the threat beforehand in order to implement an appropriate protection disposition, capable of meeting operational requirements.

The protection planning process, as described particularly in AJP 3.14 (Allied Joint Doctrine for Force Protection), can be summarized as follows: prior to any operation and after mission analysis, it is advisable to evaluate its critical functions, then to assess the threat at global as well as local levels. An air detachment, stationed within a permissive environment and whose protection is ensured by the host nation, will require only the presence of a security element while an air force, which is subjected to a wide range of air threats, from land and asymmetrical, will require complex protection dispositions.

Therefore, taking into account the degree of risk allowed by the operational command, the point is to pinpoint vulnerabilities as soon as possible, so as to implement the most appropriate protection dispositions. These measures, initiated as early as the planning phase and force generation process, must be carried out at tactical, operational and strategic levels throughout the operation, in order to ensure that protection measures are adequately tailored to the ongoing threat.
Organization and protection measures

The protection of a deployed air base is task-organized around four major functions: protective security, passive defense, active defense, recuperation. This arrangement is commonly used in the NATO and European Air group documents dealing with force protection in air operations. Here it is adapted to the French concept of protection of a deployed air base, which is currently different from the NATO concept, in particular as regards command organization and the limits of the area of responsibility of the air base commander, which does not encompass the close external protection zone.

Protective security includes the whole set of measures implemented by the air base so as to achieve and retain the best security level in as many fields as possible. Protective security commits all personnel and services involved in the areas of health guidelines and working conditions safety, protection of the environment, public health, fire prevention, road safety and judicial affairs. It also includes all policing and intelligence missions of French gendarmerie (policing force) and of the detachment of the DPSD.

Passive defense encompasses the whole set of arrangements implemented to ensure the defense and physical protection of personnel, of facilities and equipment against a conventional or NRBC hostile action. This includes measures for dispersion, secrecy, deception, as well as assets for hardening facilities on behalf of nerve points and of the surrounding area. The works made necessary by passive defense requirements are usually performed by airfield engineers and infrastructure services in operation during the deployment phase. NRBC protection measures, included in passive defense, are implemented by the airfield firefighters and a NRBC intervention team equipped with specialized means, and capable of operating equipment for sampling and identification of biological, chemical and radiological agents (SIBCRA).

Active defense comprises the whole set of measures necessary for deterring, preventing, limiting or aborting any hostile action or enemy attack. It is implemented through a capacity for taking action directly against one or several attackers in order to neutralize them as soon as possible. The efficiency of Air Force commandos, in charge of carrying out these measures, is increased through implementation of active means of surveillance, detection of intrusion, and alarm systems. According to the situation, internal defense/protection measures may be reinforced by external measures, which can be more or less drastic, and which are taken to complement intelligence collection; the latter is performed within an intelligence area of interest around the base by provost elements and DPSD. These external defense/protection measures may as a priority take the shape of missions to control and secure emplacements for vertical and line-of-sight shooting, particularly beneath the avenues of approach of aircraft, as a defense against the risk of surface-to-air attacks (MANPAD: man portable air defense).

Recuperation is implemented as a response to incident or aggression. Its aim is to restrict their effects as well as restore the capacity of the base for carrying on the mission. It is initiated in particular by the airfield firefighters, medical teams, explosive ordnance reconnaissance teams, and airfield engineers through their assigned function of damage assessment and post attack recovery and airfield damage repair.

Even if the French organization for defense/protection of theater air bases is different from the one defined by the NATO concept, because all units involved in protection are not under the same command, the deployed expertise, and the means assigned to the synergy which is developed however enable to ensure significant protection of the force.

Within this framework, personnel and equipment vulnerability can be minimized with a view to ensuring the best possible freedom of action of the force in operation.
A permanent threat requiring a continuum between peacetime and crisis/wartime

French Navy warships are, like any military unit, subjected to permanent safety and protection measures. These are taken with consideration to the threat, situation, nature, issue at stake and human, material and financial resources available. They pertain both to “defense protection”, which deals with peace or crisis time threats on national territory, and to “force protection” (the NATO concept of “Force protection”), which deals with the threats that may concern units in operation, outside the scope of combat activities (according to the definition provided in the project for a joint concept of force protection issued through the 347 directive DEF/CICDE/SEC-CENT/NP of November 20th 2007).

Until the beginning of this decade, these two notions had retained their own distinctive roles.

The appearance of new asymmetrical threats after September 11th 2001, erasing all national boundaries, has made this distinction outdated and, concretely, is causing these two concepts to get closer; they can be implemented identically in operations and on the national territory, as early as peacetime.

Variable vulnerability

Navy ships do not have the same degree of vulnerability, depending on whether they sail on the open sea or not.

On the open sea, a warship is hardly vulnerable. On the open sea, ships normally have all their material and human assets available. The whole crew keep permanent watchfulness. This disposition enables them to respond at very short notice to any situation involving danger, whether of external (collision...) or internal (accidental damage) origin.

Navy ships, according to their type, are equipped with defensive systems, ranging from man-portable small arms operated on an autonomous basis, to self-defense systems managed centrally through their own combat systems. These usually allow to deal with any attack of a military or paramilitary nature, launched from surface, undersea or air, provided the aggressor has been subjected to timely friend-or-foe identification. The commander is then entirely free to use all the assets available on his ship, in order to ensure its protection.

The terrorist threat, which is independent of any temporal or geographical constraint, is now most often concealed within
In a neutral environment, through the use of unmarked weapon carriers. It then capitalizes on the assets which can be provided by the specificities of a given area (choke points, fishing areas, presence of pleasure boats...). The best illustrative type of this new kind of threat is the light swift boat, loaded with explosives, used in suicide attacks (USS Cole, Limburg,...).

In peace time, the standard self-defense systems of warships, designed to suppress “military” targets over wide areas with some degree of freedom of action (legal, environmental...), may prove to be unsuited for these new forms of threat merging with the environment. The issue is then a **timely identification and suppression of the hostile vehicle**. A good control of that identification/suppression chain involves having some “doubt-dispelling” tools available, specifically challenging procedures and if possible delaying measures, which may be used unrestrictedly whatever the nature and constraints of any description, of the environment.

A new threat requiring new protection measures

The September 11th attacks evidenced a need for **taking into account completely new asymmetrical threats of a terrorist nature**:  
- effects no different from those of weapons of war (USS Cole);  
- no warning, because of the operating mode selected (concealment within a civilian environment, making impossible any categorization as “hostile” outside the criterion of behavior in terminal phase of operation);  
- unpredictable targets (opportunity targets rather than “planned” targets in the military sense of the word, like the oil tanker Limburg);  
- use of suicide as a course of action, widening the spectrum of possibilities for attackers’ action, and defeating most protection measures.

**A threefold challenge to face these new risks:**  
- **Conceptual**: in order to determine the general policy to carry out so as to try to find solutions that fit a constrained environment.  
- **Technological**: in order to develop technological tools which will enable to implement the recommended solutions, while abiding by the enforced rules of
engagement (development of tools enabling to deal with possible attacks, without notice and with fewer personnel: doubt removal, identification, challenging procedure, delaying action and suppression - non lethal and/or of adjustable lethality).

- Judicial: with a view to staying within the judicial national or international frame which will allow a full spectrum of action, as early as peace time.

Besides the well-known modes of the intrusion type and remote fire with RPG7, light mortar..., the threat is now multifaceted: on the surface of the water, through the use of swift boats or unmarked boats loaded with explosives (USS Cole, Limburg...), or of a ship operated as a battering ram or fireship/floating bomb; also, through the use of underwater weapon carriers, when the ship is at anchor or alongside a wharf: divers who may be autonomous or conveyed by mini-submarines. Last, through the use of aircraft as was shown by various recent significant events: aircraft used as destination weapons - 09/11/01 scenario - or as carriers in actions which are variants of “non-hostile” operations of the Greenpeace or “Black Baron” type... It should be observed that dealing with suspicious microlight aerial vehicles raises a new problem; taking into account their low speed and short detection warning, they cannot really be assimilated to aircraft which would follow the rules of air traffic and be controlled by CDAOA. Research work is still to be done in this area in order to fill the judicial and technical vacuum which leaves protection forces at a loss when confronted with this all too real danger.

The doctrine for defense protection

Principles

The French Navy doctrine for defense protection is based on the principle of in-depth defense, which, besides, involves upstream intelligence collection performed by specialized organizations (French gendarmerie, intelligence services...). It is supported by four main fundamental military tenets:

- **Deterrence and deception**, whose purpose is to induce the aggressor to consider that he does not have the capability to achieve his aim.

- **Detection and identification**, which should enable to detect and identify the aggressor quickly enough to enable his timely neutralization. These two functions are implemented within the ship's environment, and therefore within the public domain.

- **Denial and delaying actions**, which prevent the aggressor from achieving his aim. Denial measures start with strict control of the information which has been made public, so as to prevent the easy establishment of target files by potential aggressors, while passive protection, intended to slow down the attack and reduce its effects, is the most standard type of permanence-oriented delaying action.

- **Intervention and neutralization**, which consist in neutralizing the attack. In peace time, and in a "constrained" environment in which they can hardly ever be implemented for interception of an attacker acting remotely from public or private domain (sniper, rocket-launcher, light mortar...), these two actions deal mainly with intrusions.

Implementation

In practice, every warship of military importance has a protection unit which includes navy riflemen and crew members. This unit performs internal and external surveillance of the ships’ nearest ways of approach, and intervention to protect them if necessary. Its alert status, like that of the protection system, is determined according to the threat assessment which has been performed.

In the homeport, protection is normally performed by the naval base, supported by the marines' task force ("groupement de fusiliers-marins", GFM) of the maritime region it belongs to.

Reinforcement marine detachments, intervention and reinforcement task forces (GIR: “groupes d’intervention et de renfort”) can occasionally go on board the ships transiting through vital areas, or at call abroad according to circumstances.

Concerning ships transiting on the open sea or foreign coastal waters, the French Navy Staff has initiated some research work in order to define close self-defense means with gradual effects and tailorable according to circumstances, so as to have available a quickly-operating “doubt-dispelling” asset when confronted with suspicious behavior. It should be possible to make use of these means in decentralized and autonomous “on sight” mode, or operating together with the combat system. In coastal waters, the use of swift boats may be considered to perform scouting and if necessary interception tasks within the near environment. Eventually, the use of surface drones will be privileged to perform this task (such as the US Spartan drone for example).

When ships are at anchor or in a foreign harbor, the issue of close self defense of ships is of an identical nature (with the additional constraint of having only a part of the crew available, the rest of the personnel not being necessarily on board). The ships staying stationary, it is nevertheless possible to deploy a surveillance and protection disposition, within their immediate environment, on land as well as on the water area, in order to provide a degree of in-depth defense. This disposition is task-organized into a mobile element - randomly-scheduled foot or maritime patrols for surveillance, reconnaissance and deterrent occupation of the ground - and a static protection element, composed of sentries, centralized surveillance systems, light weapons in stationary posts...
A terrorist threat assessment report (EMT: état de la menace terroriste) of the anchoring area of ships will be established by the operations controller at the defense attaché’s instigation. The captain will take all protection measures consistent with the environment and which seem to him necessary. He can then refer to the VAUBAN catalogue, which constitutes a “tool box” suggesting a set of planned measures enabling to study in common the tailoring of ships’ protection according to the threat perception (N° 168 DEF/EMM/ETUDOPS,DR of October 30th, 2006).

1 Commandement de la défense aérienne et des opérations aériennes: French Air Defense and Air operations Command.

Preparing for the future

In front of the new forms of threat, implementation of the doctrine of defense protection requires the development of new tools, congruent with legal frameworks, which can be used unrestrictedly anywhere whatever the circumstances. The point is mainly the development of challenging and warning shot procedures, in order to have available a classification criterion when dealing with a suspicious contact, thus enabling to remove doubts, as well as delaying systems of adjustable lethality.

The “Proserpine” plan and the “Protector” study for harbor protection, as well as the “Salve” project dealing with warships’ self-defense, reflect the taking into account of the new threats by the French Navy, and constitute the first overall approach to the problem. It should be observed that defining a protection concept goes beyond the mere “armament program” aspect. Actually it also includes a judicial constituent, and even possibly a constituent concerning infrastructure and state property policies for national harbors.

The “Protection” organization of a ship at sea, because of the diversity of threats with which it is confronted as well as the number of tools it is likely to make use of, has many similarities with the various areas of standard warfare (against surface ships, air threat or against submarines). Eventually, the question of its “upgrading” to the full level of a warfare activity will be worth raising, in order to achieve more coherence and efficiency.
This bibliography only refers to conceptual and doctrinal current and releasable documents. Documents dealing with general security are still under consideration.

Major Field Manuals dealing with Protection

Joint Publications

PIA - 03.122 - Concept interarmées de défense surface-air (Joint concept for surface to air defense).
PIA - 03.160 - Concept interarmées de lutte contre les engins explosifs improvisés (Joint concept for fight against IEDs).
PIA - 03.203.1 - Doctrine interarmées de défense NRBC (Joint doctrine for NRBC defense).
PIA - 03.302 - Directive interarmées sur la protection de l’environnement en opération (Joint directive for environment protection during operation).

Texts specifically pertaining to Land Forces

Concept PROTERRE (PROTERRE Concept)

Concept d’emploi des forces terrestres en contrôle des foules (Concept for the Army forces in crowd control).
TTA 950 - Manuel provisoire d’emploi des forces terrestres dans le contrôle des foules (Provisional Field Manuel (FM) for the employment of land forces in crowd control).
TTA 702 - Règlement sur l’emploi et la réalisation d’obstacles par les forces terrestres (Field Manuel (FM) for employment and construction of obstacles by land forces).

Concept de lutte antiaérienne toutes armes (Concept for combined air-to-air warfare).
TTA 110 - Mémento de la lutte antiaérienne des unités toutes armes (Manual for combined air-to-air unit warfare).
DNBC 100 - Concept d’emploi de la défense NBC en opération (Concept of employment of NBC defense in operations).
Mémento de défense NBC à l’usage des unités toutes armes (Manual for NBC defense for all combined units).

All our Publications on our site
WWW.cdef.terre.defense.gouv.fr
### Main acronyms

**about Force Protection**

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<tr>
<th>Acronym</th>
<th>Description</th>
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<tr>
<td>AAP</td>
<td>Allied army publication</td>
</tr>
<tr>
<td>ACT</td>
<td>Allied Command Transformation</td>
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<tr>
<td>WMD</td>
<td>Weapon of Mass Destruction</td>
</tr>
<tr>
<td>ADR</td>
<td>Airfield Dommage Repair</td>
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<tr>
<td>ALTBMD</td>
<td>Active Largered Theater Balistic Missile Defense</td>
</tr>
<tr>
<td>AUSA</td>
<td>Association of the US Army</td>
</tr>
<tr>
<td>CAS</td>
<td>Close Air Support</td>
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<tr>
<td>JOC</td>
<td>Joint Operation Center</td>
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<tr>
<td>JFC</td>
<td>Joint Force Command</td>
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<tr>
<td>CIED</td>
<td>Counter improvised explosive device</td>
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<tr>
<td>CDNBC</td>
<td>Centre de défense NBC</td>
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<tr>
<td>CFAT</td>
<td>Commandement de la force d’action terrestre</td>
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<tr>
<td>CFLT</td>
<td>Commandement de la force logistique terrestre</td>
</tr>
<tr>
<td>CCT</td>
<td>Camion citerne tactique</td>
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<tr>
<td>CICDE</td>
<td>Centre interarmées de concepts, de doctrines et d’expérimentations</td>
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<tr>
<td>CIMAT</td>
<td>Compagnie de maintenance adaptée au théâtre</td>
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### Principaux Sigles et Acronymes

concernant la protection de la force

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<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<td>ADM</td>
<td>Arme de destruction massive</td>
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<tr>
<td>AGESTER</td>
<td>Agencement de l’espace terrestre</td>
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<tr>
<td>AUF1</td>
<td>Automoteur modèle F1</td>
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<tr>
<td>BLIAT</td>
<td>Base logistique interarmées de théâtre</td>
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<tr>
<td>BTAC</td>
<td>Brigade de transmissions et d’appui au commandement</td>
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<tr>
<td>BATLOG</td>
<td>Bataillon logistique</td>
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<tr>
<td>CARBC</td>
<td>Cellule d’aide à la décision dans les domaines radiologique, biologique et chimique</td>
</tr>
<tr>
<td>CDNBC</td>
<td>Centre de défense NBC</td>
</tr>
<tr>
<td>CFAT</td>
<td>Commandement de la force d’action terrestre</td>
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<tr>
<td>CFLT</td>
<td>Commandement de la force logistique terrestre</td>
</tr>
<tr>
<td>CCT</td>
<td>Camion citerne tactique</td>
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<tr>
<td>CICDE</td>
<td>Centre interarmées de concepts, de doctrines et d’expérimentations</td>
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<td>CIMAT</td>
<td>Compagnie de maintenance adaptée au théâtre</td>
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<tr>
<td>COLPRO</td>
<td>(Army) Basic and Advanced Professional Military Education Command</td>
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<tr>
<td>FC</td>
<td>Collective Protection</td>
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<tr>
<td>UNIFIL</td>
<td>Force Commander</td>
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<tr>
<td>COMANFOR</td>
<td>Commandant de la force</td>
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<td>COMFINUL</td>
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<td>COMOPS</td>
<td>Communication opérationnelle</td>
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<td>CNE (TA)</td>
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<td>CNHM</td>
<td>Centre de niveau haut MARTHA</td>
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<tr>
<td>CRR-FR</td>
<td>Corps de réaction rapide France</td>
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<tr>
<td>BMD</td>
<td>Ballistic Missile Defense</td>
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<tr>
<td>TBMD</td>
<td>Theater Ballistic Missile Defense</td>
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<tr>
<td>DAMB</td>
<td>Défense antimissile balistique</td>
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<tr>
<td>DAMB/T</td>
<td>Défense antimissile balistique de théâtre</td>
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<tr>
<td>DCCAT</td>
<td>Direction centrale du commissariat de l’armée de terre</td>
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<td>DCMAT</td>
<td>Direction centrale du matériel de l’armée de terre</td>
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<tr>
<td>DEP/CDNBC</td>
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<td>DSA</td>
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<td>Direction interarmées des réseaux d’infrastructure et des systèmes d’informations de la défense</td>
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<td>EBL</td>
<td>Engin blindé léger</td>
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<td>ECPA-D</td>
<td>Etablissement de Communication et de Production Audiovisuelle de la Défense</td>
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<tr>
<td>EEI</td>
<td>Engin explosif improvisé</td>
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<tr>
<td>EMSST</td>
<td>Enseignement militaire supérieur scientifique et technique</td>
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<tr>
<td>EMT</td>
<td>Etat-major tactique</td>
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<tr>
<td>LAV</td>
<td>Light Armored Vehicle</td>
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<tr>
<td>IED</td>
<td>Improvised Explosive Device</td>
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<tr>
<td>EFP</td>
<td>Explosively formed penetration</td>
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<tr>
<td>EMA/CAB/C</td>
<td>Etat-major des armées/Cabinet/ Communication</td>
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<td>FINBATT</td>
<td>Finnish Battalion</td>
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<tr>
<td>FINUL</td>
<td>United Nations Interim Force in Lebanon</td>
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<td>UNIFIL</td>
<td>Force intérimaire des Nations unies au Liban</td>
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<tr>
<td>Abbreviation</td>
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<tr>
<td>FM</td>
<td><em>Field Manual</em></td>
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<td>FPO</td>
<td><em>Force Protection Officer</em></td>
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<td>EAG</td>
<td><em>European Air Group</em></td>
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<td>GHANBATT</td>
<td><em>Ghanan Battalion</em></td>
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<tr>
<td>NBC Defense Group</td>
<td><em>(Mobile Task Group</em> <em>(Former) French Indochina war)</em></td>
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<td>Surgery group</td>
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<td>GAE</td>
<td><em>Groupe aérien européen</em></td>
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<td><em>Bataillon ghanéen (ONU)</em></td>
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<td><em>Groupe mobile</em></td>
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<td>GMC</td>
<td><em>(Ancien : guerre d’Indochine française)</em></td>
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<td>GTIA</td>
<td><em>Groupement tactique interarmes</em></td>
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<td>HSO</td>
<td><em>Hygiène et sécurité en opération</em></td>
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<td>INFO OPS</td>
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<td><em>Lut antiaérienne toutes armes</em></td>
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<td><em>Major général de l’armée de terre</em></td>
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<td>NTIC</td>
<td><em>Nouvelles techniques de l’information et de la communication</em></td>
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<td>NRBC</td>
<td><em>Nucléaire, radiologique biologique et chimique</em></td>
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<td>OMLT</td>
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<td>PAR</td>
<td><em>Remise en condition après une attaque</em></td>
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<td>JTFCP</td>
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<tr>
<td><strong>RCC</strong></td>
<td><strong>Radar Control Center</strong></td>
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<td><strong>QRF</strong></td>
<td><strong>Quick Reaction Force</strong></td>
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<td><strong>RAM</strong></td>
<td><strong>Rocket – Artillery – Mortars</strong></td>
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<td><strong>RCIED</strong></td>
<td><strong>Remote controlled improvised explosive device</strong></td>
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<td><strong>ROTA</strong></td>
<td><strong>Release Other Than Attacks</strong></td>
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<td><strong>RPG</strong></td>
<td><strong>Rocket Propelled Gun</strong></td>
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<td><strong>RSB</strong></td>
<td><strong>Road Side Bomb</strong></td>
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<td><strong>SIBCRA</strong></td>
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<tr>
<td><strong>SID</strong></td>
<td><strong>Joint Military Installations &amp; Environment Department</strong></td>
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<tr>
<td><strong>SIMP</strong></td>
<td><strong>French Defense Ministry’s Integrated Aeronautical Equipment Support Structure</strong></td>
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<tr>
<td><strong>STAT</strong></td>
<td><strong>Army Technical Development Branch</strong></td>
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<p>| <strong>PVC</strong> | <strong>Poste de veille et de contrôle (pour radar)</strong> |
| <strong>P4</strong> | <strong>Véhicule tous chemins (nouvelle “Jeep” française)</strong> |
| <strong>PIA</strong> | <strong>Publication interarmées (Armées françaises)</strong> |
| <strong>PSE</strong> | <strong>Prévention, sécurité, environnement</strong> |
| <strong>FRR</strong> | <strong>Force de réaction rapide (niveau théâtre)</strong> |
| <strong>RAM</strong> | <strong>Roquette, artillerie, mortier</strong> |
| <strong>ROTA</strong> | <strong>Engin explosif improvisé déclenché à distance</strong> |
| <strong>RC 4</strong> | <strong>Route coloniale n°4 (en Indochine française)</strong> |
| <strong>RET</strong> | <strong>Retour d’expérience</strong> |
| <strong>RSB</strong> | <strong>Lance-roquettes antichar</strong> |
| <strong>SAMP</strong> | <strong>Bombe placée en bordure de route</strong> |
| <strong>SATCP</strong> | <strong>Sol-air de moyenne portée</strong> |
| <strong>SCCOA</strong> | <strong>Sol-air de très courte portée</strong> |
| <strong>SIC</strong> | <strong>Système de Commandement et de Conduite des Opérations Aérospatiales</strong> |
| <strong>SIMMAD</strong> | <strong>Prélèvements et identification d’agents biologiques, radiologiques et chimiques</strong> |
| <strong>SID</strong> | <strong>Service d’infrastructure de la Défense</strong> |
| <strong>SIMP</strong> | <strong>Structure intégrée de maintien en condition opérationnelle des matériels aéronautiques du ministère de la Défense</strong> |
| <strong>STAT</strong> | <strong>Section technique de l’armée de terre</strong> |</p>
<table>
<thead>
<tr>
<th>Abbreviation &amp; Acronym</th>
<th>Description</th>
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<tr>
<td>Simulation and Situation Tracking System</td>
<td>Système de suivi de situation et de simulation</td>
</tr>
<tr>
<td>Very high hardness</td>
<td>Très haute dureté</td>
</tr>
<tr>
<td>Home Land</td>
<td>Territoire national</td>
</tr>
<tr>
<td>Battalion level CSS Task Team</td>
<td>Train de combat n° 2</td>
</tr>
<tr>
<td>Military Land Transportation</td>
<td>Transport routier militaire</td>
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<tr>
<td>Posttraumatic Stress Disorder</td>
<td>Trouble de stress post-traumatique</td>
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<td>C2 and Logistics Unit</td>
<td>Unité de commandement et de logistique</td>
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<td>Wheeled Armored Fighting Vehicle</td>
<td>Véhicule de l’avant blindé</td>
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<td>Light Armored Fighting Vehicle</td>
<td>Véhicule blindé léger</td>
</tr>
<tr>
<td>Logistics Vehicle</td>
<td>Véhicule de transport logistique</td>
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<tr>
<td>“Confidence Area” (in Ivory Coast)</td>
<td>Zone de confiance (République de Côte d’Ivoire)</td>
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“The Modern War” According to Colonel Trinquier

Roger Trinquier would have been 100 year-old! However would not his “modern war” be the model of contemporary conflicts? Obstinate architect and actor of the irregular war, Trinquier has wanted to set up the rules of a new form of confrontation. Even if the last years of fighting in Algeria led him to add a political dimension to his fights, indeed even some excess to his practices - in particular regarding torture -, his methods which are of concern here, cast a striking new light on current conflicts.

Let us therefore imagine Colonel Trinquier’s attention paid to the renewed interest brought to his “modern war” from now on while developing how doctrine could exploit its content.

An imaginary Interview

with Colonel Roger Trinquier

BY COLONEL PHILIPPE COSTE, CDEF-DEO

Roger Trinquier:
My written work, fruit of the bygone era of colonial war, arouses from a reformed Army a quite surprising interest.

CDEF: The current Army commitments establish the return of the war within populations in front of an asymmetrical threat. These are the conditions of commitment you have always known, from the fight against pirates along the China-Tonkin border to the command of a battalion in Algeria, through the outstanding Indochinese experience of commanding regular and native troops. All these conflicts were marked by their “irregularity” in particular during the fights in enemy territory, and by a heavy and determining intermingling with the population. Thus you have deplored that doctrine did not mention a critical factor in the conduct of the modern war: the inhabitant. Today the battlefield is no longer empty, it has no more limits […] the inhabitant, at home, is in the heart of the conflict2.

Roger Trinquier: I have actually clearly written that the population is at stake in this struggle but also that the enemy is not only composed of some armed mobs who are fighting on the ground but it is also supported by an organization who resupplies them, provides them with intelligence and supports their moral. It is to oppose these two aspects of the threat that I recommend both a direct action towards populations and the fight against armed forces of the enemy.

CDEF: The basis of the action towards populations is, according to you, the implementation of large police operations carried out in parallel with a deep psychological action and followed by a wide social action to bring to the populations a material and moral support necessary for the normalisation. Such a principle is in accordance with the demand of securing the theater of operations; it constitutes the final aspect of the stabilization phase which enables the struggle against rebels as well as transition towards the normalisation phase. Your objective being the conquest of population, your first recommendation is to absolutely ensure its protection by providing it with self-defense assets
and then later on by setting up organizations able to detect the enemy. Your goal is therefore to eradicate the whole organization which is infiltrated within the population. It requires to organize and control this population and to set up intelligence units which rely on it because it is the only one to know enemy basic elements.

**Roger Trinquier:** My modern war is however the one of a new form of confrontation depicted as revolutionary. To which extent would the subversive fight be topical?

**CDEF:** You have described a new form of war which is different from the previous ones due to the fact that the victory is not expected only from the shock of two armed forces on the battlefield [...]. The war is nowadays a series of actions of different kinds, [...] the aggressor endeavors to exploit the tensions of the attacked country, the political, ideological, social, religious and economic conflicts, which are likely to have a deep influence on the populations to be conquered\(^3\). Such a description would apply to the stabilization phase when the regular forces face an organization which uses all asymmetrical means to discredit them and by-pass their power. Adding that the conventional armed forces no longer play the decisive role they previously have, you illustrate the global maneuver depicted by the CDEF by integrating a military operation line in a real global strategy of fight against a rebellion. Lastly, before the real set up of the armed resistance, the regular forces will have to face terrorism, major weapon of the modern war\(^4\):

The aim of the modern war being the conquest of the population, terrorism is a perfectly suited weapon due to the fact that it directly takes aim at the inhabitant.

*Terrorism in cities, guerilla warfare in the countryside, war will begin\(^5\).*

**Roger Trinquier:** Terrorism opens the way to the guerilla warfare which aim is not to achieve local success but to create a climate of insecurity to force regular forces to withdraw into tenable areas and let the rest of the territory under the rebel control.

**CDEF:** For this purpose three simple principles are advocated in your book: to break the links between the rebels and the supporting population, to make the guerilla areas untenable and to act on a long-term basis. You also note that victory requires the total destruction of the organization and that its most vulnerable part is located in cities. Your scheme of maneuver is therefore as follows:

- to destroy the political-military organisation thanks to police operations throughout all "the inhabited countryside".

from surprising him, which is a major success factor in combat. We must deny him this support, because otherwise, the usual ways of operating such as patrols, ambushes and large scale operations will very seldom prove to achieve expected results.

**Roger Trinquier:** Being slave to their education and traditions, our Army did not succeed in adapting to a kind of war which is not taught in military academies. I therefore recommend to thoroughly review their assets employment to tackle two enemy weaknesses on which the rebel totally relies: the terrain - which he has chosen - and the population support.
to put a dissuasive pressure similar to the spread process used during pacifications, to repel mobs in shelter areas while occupying the inhabited countryside.

Occupation implies both a real organization of the population as well as its control which might lead if necessary to forced regroupings of this one. As for the conduct of operations, it relies on the set up of a defense system and an intelligence network thanks to a tight control over the area. The attack against the armed organization in the shelter area is then carried out against mobs having only their own resources. It is time for regular troops to express its whole power particularly to quickly act.

The adjustment of assets you recommend requires troops specialization: sector troops for the tight control and police operations, gap troops for the protection and general reserve for destruction. However you deny the "strategic" role played by low echelons since the struggle against guerilla warfare is not a warfare of First Lieutenants or Captains. [...] The important strength, the wide areas of terrain, the necessity to closely coordinate on wide areas actions which are sometimes very different, the political-military measures to be taken towards populations, the cooperation which should necessarily be very close with the different branches of the civilian administration we have to put in place again, demand that operations be led according to a very highly detailed plan, set up at a very high level of command.

Roger Trinquier: But above all, war operations, and particularly police operations in cities, take place in the very heart of the population. The psychological action is therefore basic.

CDEF: Indeed you stress on the necessity to let the aims of the war of our forces be known but the effects of the psychological action remain moderate as long as the organization which infiltrates the population is able to terrorize it. It is the organization of the population, already mentioned which, according to you, is the only one able to complete these effects once the situation is quite stabilized. It must be accompanied by a wide and generous social action.

Roger Trinquier: To conclude, I mentioned when writing the modern war that we were at a major turning point as for the evolution of the forms of war. The growing power of weaponry which took away the combatants suddenly will bring them together again. They will fight each other again in a limited space and the war will be the juxtaposition of numerous minor actions. Cleverness and slyness combined with physical brutality will take over from the blindness of a powerful weaponry. We will face a question: shall we use in the modern war all means to win? However that may be, the war in the very heart of populations is certainly one of the most complex and tricky problems ever posed to armed forces.

1 Roger Trinquier: La guerre moderne, La Table Ronde, 1961.
5 Op. Cit. p.44.
“Counter-insurgency Warfare, Theory and Practice”

After having generated a very strong infatuation inside the US military community, the book “Counter-insurgency warfare, theory and practice” written in 1963 is published for the first time in France. Its author, Lieutenant Colonel David Galula (1919-1968) delivers the lessons learned from his experience as a French officer who was both a witness and an actor in the revolutionary wars of the second half of the twentieth century.

Major de Montenon, assigned to the Armed Forces Joint Staff, has translated and presented the French edition.

David Galula: A Doctrine Link between France and the USA*

Who was David Galula?

All we know from him lies in his military record and some archives of Rand Corporation the famous think tank which published his studies in the USA. How succinct they may be, these documents reveal the very strong originality of this officer’s career path. This explains in part the singularity and the strength of his reflections.

Joining Saint-Cyr1 in 1939, Galula was thrown into the war after some months as was the whole of his course. Called back at Aix-en-Provence after June 1940 armistice to complete his military education, he was radiated from staff records in 1941 as a victim of the first anti-Jews laws. After some time spent in North Africa, the region he came from, he joined the Army of Africa and took actively part in France’s liberation. He was even wounded when fighting in Elbe Island.

In 1945, he is for the first time sent to Asia, with the first elements in charge of restoring France’s presence in this region of the world. He will then spend nearly a total of 10 years and witness the take over of communist insurgency in China. He is even a prisoner of Mao Zedong’s troops for a short period. He interrupts his posting in Asia to briefly participate in the UN mission in charge of observing the civil war then ravaging Greece (1949-1950); he then witnesses the victory of counter-insurgency over the communists.

From 1956 to 1958, catching up with the fate of most officers of his generation, Galula is in command of an infantry company in Algeria. In the district he is in charge of, he implements the counter-insurgency methods drawn from his earlier observations. His results are remarked. His promotion, rather slow up to that time, is suddenly boosted. He is solicited for a series of conferences abroad and is assigned to the National Defense Joint Staff.

It seems however that he cannot achieve his coming back “in the mold”. In 1962, he asks to be temporarily discharged (without pay) in order to study in the US. He is seen in the Center for International Affairs at Harvard University where, in his capacity as associate professor, he publishes two books “Pacification in Algeria 1956-1958”, then “Counter-insurgency warfare, theory and practice”.

We know nothing or near nothing about the end of his life excepted that he died in Essonne2 in June 1968.

How can it be possible for a book written in 1963 to be published for the first time in France in 2008?

We have seen that Galula’s fame in France remained kept rather confidential before he left for the US. It seems that he had not been really recognized, when he was alive, outside American academic communities where he moved. It also seems that his works stayed a long time in Rand Corporation’s archives. His comeback on the front scene is mainly due to General Petraeus’s3 action when he was the commanding General at Fort Leavenworth. This is where US Army equivalents of our CID4 and CDEF5 are located. Galula’s thoughts then affected significantly the drafting of the counter-insurgency field manual. This was drafted jointly by the US Army and the Marine Corps. General Petraeus even made reading Galula compulsory for the whole of the students from the Command and General Staff College.

We could then expect a French book being so successful across the Atlantic to be published in France.
How the American’s interest for this author can be explained?

First of all, I believe that we must be aware of how strong was the infatuation generated by Galula: General Petraeus who accepted to preface the French edition describes him as “counter-insurgency Clausewitz” and “the 20th century most important military thinker”. When we consider the cult the American devoted to Clausewitz, these words are really meaningful. A large part of the US Officers engaged in Iraq read Galula.

We can possibly say that Galula’s theories are bridging a gap in the American military culture and they can attract the military committed in current conflicts. We must remind here that even if the American experienced a major revolutionary war in Vietnam, they have then decided to close the door on this failure without really drawing strategic lessons. Besides that, they see in Galula a synthesis of French experience in Algeria which seems them quite close to their current situation in Iraq.

Conversely, Galula’s theories can attract them because they demonstrate that insurgency victory is not a fatality and the means to fight it are before all political. We know that the US military regret the low involvement of political authorities in the conduct of stabilization operations and the poor quality of interagency cooperation. Then Galula brings evidence that these factors are the keys to victory.

Are the theories presented by Galula really revolutionary?

We should rather say that they are original. Galula takes back statements made by the whole of revolutionary war theorists: the population support is the main stake of the conflict, intelligence is the key to success...We can however observe that the solutions he proposes are differing from other authors’ such as Trinquier, because they do not require a systematic use of force. Instead Galula proposes a kind of argumentation to counter the communist dialectics and to convince the population that they will not be safer or more prosperous in the regime proposed by the insurgents. He draws his experience from a deep knowledge of the insurgency system and unveils some failures which can be found in all examples of revolutionary wars.

Precisely are these theories really applicable to some of the current conflicts?

The debate is worth to be opened, at least to answer remarks from US servicemen who are frequently surprised that Galula is so poorly known in France. The acuteness of some of Galula’s observations such as his description of the insurgents’ psychology or of reactions from the population is worth to be thought over. We could for instance try to project these schemes on the conflict currently opposing the Columbian government to the FARC to better understand each adversary’s perspective. However, the recipes he proposes, starting with an adaptation of the law making system to the conditions of insurgency are underpinning a political stability and an independence vis-à-vis the public opinion that are seldom present in our modern democracies.

At the end, what kind of interest can find the French in reading Galula?

I believe this book is before all an historic document, delivering a very original vision of the revolutionary wars in which France took part.

We have possibly a duty of memory towards this officer. We should also be capable to explain our history to the Americans in a way without passion.

1 Ecole spéciale militaire de Saint-Cyr : French Military Academy (France’s equivalent of West Point).
2 Translator’s note : an administrative district near Paris.
3 Currently Commanding General of the coalition forces committed in Iraq.
4 CID : Defense Joint College.
5 CDEF : Forces Employment Doctrine Center.
6 Colonel Roger Trinquier, “La guerre moderne” [the modern war].
Force protection and operational efficiency when planning equipment development programs

German forces’ engagement can never be regarded as being an objective by itself but it takes place within the framework of the implementation of a mission given by the Bundestag in accordance with laws, rules of engagement and the principle of the proportionality of the means. The citizen - an elector and a tax payer - has in that matter a legitimate right of regard confirmed by the Bundeswehr’s special characteristic of being a parliamentary force. In our society, the concept of human being and its individuality justifies for the soldier the right to have, as much as possible, all conditions put together for successfully achieving his mission. For the armed forces in operations, that means achieving the best efficiency possible with the best protection possible.

Military operations can be conducted on land, at sea, in the air, in space and in the digitized space. The ground space is and will remain decisive for men - be it as a State or colonization space, a provider of significant resources or an economic space. A methodic analysis of conflicts teaches us that even though average conflict duration has decreased, an operational success can only be achieved by the involvement of land forces. State reconstruction that immediately follows and that requires a lot of time demands sufficient and lasting presence of forces on the ground.

Military operations - high intensity, stabilization or state reconstruction - reach necessarily that point when it becomes essential to control and secure the country - especially the major built up areas and towns and cities centers. This is totally independent of where and when military operations have started and the way they are conducted. Our existence being determined by a “focus”, land forces that are employed in crises scenarios and in conflict situations will always be entrusted with the decisive role. Only land forces have in this respect the required capabilities. The main stabilization operations that have been and are currently conducted by the Bundeswehr in the Balkans, in Afghanistan and in Congo are land operations. With about 4,000 men, our army provides about 60% of the forces engaged in external operations and remains the major troop provider. Joint support units are integrated within these operations and they execute their mission altogether with the land forces and under the operation commander’s command and control. The major part of these units wear the land forces’ uniform which highlights the army’s essential competence in matters of command and control of land and air - close to
the ground - operations as well as its role of land forces’ key nucleus. The scope of the requirements that are applicable to land forces’ soldiers and to their equipment has broadened through the variety of the conflict prevention and crises management missions conducted in such various regions. Today, it is not enough to work within a joint or multinational framework, it is also necessary to have the capability to cooperate with forces from others areas and with civilian reconstruction organizations. This has an impact on army's training procedure and equipment.

Generally speaking it is possible to say that the requirements originate from the mission. All measures taken within the framework of transformation aim at meeting these requirements. Planning the future Army's equipment gets its guidance from the requirements linked to the current missions - to which they are committed within the framework of NATO response Force and EU battle Groups, as well as of national risk prevention for evacuation operations - as well as to the more likely threats. Due to their complexity, the entirety of the dangers linked to the operations can neither be fully evaluated nor even foreseen.

Contrarily to what happens for the other services’ soldiers, army soldiers are always at the heart of the events even for stabilization operations. This is their mission. The army soldier’s “distance” is the eye contact’s one. And later, over the famous “final hundred meters”, most often the army soldier can only rely on himself. On the top of it, the direct contact with the populations on the theater develops a status of confidence which increases also the level of risk for the soldiers. The best possible protection should go together with the corresponding weapons. In order to be efficient and also to limit potential damages, it is necessary to be swift and accurate. These requirements are not new but today they must be tackled with a degree of priority higher than before. Protection and efficiency are thus bound by a complex interdependency. They constitute the two sides of a unique single coin.

Casualties in operations caused by avoidable shortfalls are difficult to accept morally, militarily and politically. It is thus imperative to provide the military in operations with the best possible equipment by taking advantage of all technical capabilities that a modern industrial society can provide. The sense of responsibility as well as the obligation of assistance requires that the best possible protection be provided to the soldiers in operation and to the persons that they guarantee the security of; it is to be demanded and provided. It is the political and military leaders’ responsibility to provide the best equipment that German as well as international industry can provide for covering a large spectrum of protection. It is the only way to keep the risk at an acceptable level.

Selecting the required degree of protection among the large spectrum of the risks linked to mission and situation, and then imposing it, is a major responsibility for the military commander in operations. It is also one of the conditions required to guarantee the success of the mission and to ensure the capability for a political action.

This is on that philosophy that relies the legitimate claim of the soldiers for being trained and equipped as well as possible and thus for being well protected and to find themselves in a position of superiority when they deploy abroad. This provides the soldiers with the required guarantees to achieve successfully their mission.

 Threat and level of protection during an engagement

The major threats to which army soldiers are currently directly exposed during an engagement result from terrorist attacks, violent mass demonstrations, mines, booby trapped weapons and ammunitions such as artillery projectiles, missiles and mortar shells, bomb attacks, IEDs and snipers. The threat that is posed to the soldiers’ physical integrity and life when engaged in an operation is nowadays omnipresent, since this is the potential enemy who decides how, when, where and with which means or which type of violence he is going to intervene - from weapons that are simple and difficult to detect up to high technology equipment.
The operational parameters - protection and efficiency - must thus always be focusing on the concrete requirements of a precise engagement without letting any administrative routine have any impact on them. Routine may be lethal. Each engagement includes high level of risks and dangers. This is the reason why politics has to resort to the military. Operations in the Balkans and in Afghanistan give a most striking example of that principle. Not only in Iraq but also increasingly in Afghanistan, suicide attacks have become a normal combat tool. During the year 2005 only, the number of attacks has been multiplied by 5, particularly during the second semester. From the beginning of 2006 to the summer of that same year there has been the same number of attacks as during the entire year 2005. That negative evolution has to be actively struggle against and initiative must be kept while guaranteeing the best possible security for the soldiers in operation. In order to do so, it exists a large array of measures such as continuing to harden the military facilities on the theater, acquiring new armored vehicles, reinforcing forces and reconnaissance means as well as increasing the commanders in theater's freedom of action and up to providing armored reserves forces.

These measures highlight the major importance that has to be granted to the protection of the military in operation. Protection is not an objective by itself; it is one of the means to achieve a definite objective. Simultaneously, there is nothing that can replace the best protection. That is why the Army with its protection philosophy is on the right track. The Army's equipment philosophy, that has been elaborated years ago, has proved to be relevant within the context of the current engagements. Since then, Army acquisition programs have been very much focused in that direction.

The Army is however very conscious of the fact that it cannot guarantee a 100% protection, for instance in front of kamikazes. Whatever might be the circumstances and the mission to be achieved, there will always be a discrepancy between operational efficiency and force protection. It is only by linking protection to operational efficiency that the required credibility can be provided to the achievement of the mission. Protection without operational efficiency could lead to paralysis in case of danger; operational efficiency without force protection can hardly be justified.

When time comes to establish confidence for the reconstruction of a State, it is always required to balance carefully risks against force protection. A patrol which would, for instance, have to circulate through narrow streets or on an impracticable type of terrain would always have to be conducted on foot. This doesn't mean however that in case of a change of the situation the forces and means required to improve its operational efficiency and protection do not have to be immediately available on site.

Force protection factor constitutes the paramount requirement within the framework of army programs of equipment. For the army, force protection is a collection of measures and means that include much more than a mere vehicle. Thanks to our own active and reactive measures of protection, the opponents' reconnaissance, target acquisition capabilities as well as their operational efficiency can be neutralized or, at least, reduced. The ability to impose our will as well as our forces' operational efficiency contribute to our forces' protection just like accurate reconnaissance and command and control superiority. In addition to the improvement of the individual survivability offered by systems such as “infantryman of the future” (a comprehensive equipment concept for the individual soldier) and “soldier in operation”, it is mainly a consistent system of armored vehicles that is at the very heart of planning and realization. The objective that is sought is to provide our forces with the most comprehensive protection possible in front of all sorts of threats while safeguarding our forces and assets' ability to operate. In that sense, the requirements that this creates for systems of reconnaissance, operational efficiency and protection must be permanently analyzed and adapted.

Force protection concept within the army

For the army the reference is “the concept of force and military facilities protection in operations” that has been published in 2006. The army regards force protection as an integrated system that includes equipment, armament, an excellent training process as well as adapted principles of employment and procedures, within which the obligation to provide assistance has also a role to play. The following aspects have a major importance for the army:

1- The acquisition of scalable protection systems, from individual protection systems, such as as “infantryman of the future” and “soldier in operation”. “Infantryman of the future” is a reality and has been successfully tested in operations. By the end of 2007, the Army should have acquired, according to the program, 160 “infantryman of the future” squad systems (basic version), i.e. 1,600 individual systems. Thanks to this equipment, patrol capabilities will be significantly improved. In addition, the MP 7 sub machine gun has been fielded; it provides patrols with self-protection and fire power superior capability.

2- Platform protection: a large and differentiated range of armored vehicles that can respond to a variety of requirements within the entire array of missions. For a low to medium protection level, we have, for instance, for our
specialized forces the MUNGO, WIESEL II, BV 206 and DINGO vehicles. For that class of vehicles, the army has only initiated the acquisition process. Currently, less than a third of the 2,700 vehicles that are engaged on theaters of operations are protected. Even for the ISAF, which is the operation that presents the maximum level of risks, the protected vehicles ratio is only slightly above 50%.

The platforms protection must be completed by other measures of active and passive protection for what regards the convoys. The army initiated a process of acquisition of sniper detector systems and began the testing of mini jammers. Besides, the enhancement of the flying platforms/systems' protection - especially the CH-53, the workhorse in operations - is improving.

3- Third the facilities and camps protection goes from measures regarding the infrastructure, linked to sensors technology, to the use of guard dogs. In that domain too, besides the reactive components, force protection encompasses active components that are currently systematically analyzed and already put to the test in operations. Sensors technology, aiming at improving observation and reconnaissance capabilities in the camps surroundings, is currently being acquired.

4- Command and control and reconnaissance superiority seen as being an actual part of the force protection system, even under the conditions of a network centric type of command and control. The acquisition of the new army CIS (FüInfoSysHeer), a major program for the German army, constitutes a first step in that direction. Following a successful test in the field and another one in operations the first systems are going to be fielded. With the FENNEK reconnaissance vehicle, the LUNA and ALADIN UAVs as well as, since last November, the mini UAV target locator (KZO), the army has reached an initial capability in the reconnaissance domain. In addition, the next step in the domain of reconnaissance will be made with the initiation of studies for the development of an efficient ground surveillance radar, the BÜR. At the completion of that project, the military commander in the field will have at his disposal the means enabling him to get a picture of the situation that will be accurate, comprehensive, independent from weather conditions and long-lastingly operating, which will make easier the decision making process.

5- Efficiency and ability to impose one's will thanks to an active protection. The major objective is to be able to remotely control an action, achieving a precisely defined effect while avoiding collateral damages. The goal is to put together different weapon systems in order to develop one system that will meet these requirements. Thus, the fielding of the new TIGER (support and protection) helicopter with its major weapon system (third generation anti tank missile system) will permit the development of a decisive step up in quality as far as efficiency and ability to impose one's will are concerned. This is also true for a weapon system (e.g. the combat UAVs) dedicated to deep punctual engagement and which, in liaison with the joint reconnaissance means, will be able to improve significantly the land forces' protection and ability to impose their will.

6- The obligation to provide assistance. The military which, in an operation, put their life and health at risk for our country have the right to be specially supported and cared for. For these reasons were created the law on pensions for the military in operations and families, new opportunities of professional reconversion for handicapped soldiers as well as an optimum medical assistance and care and support for families as well as a revised pay that is proportional to the efforts that are made in the field.

7- Training. The army training focuses on operational engagement. Today the requirements for leaders and troops' training have become more complex. In addition to the indispensable combat ability, an infantryman must have the capability to protect the persons he has been entrusted with, to help them in situations of distress and to act as a mediator among the warring factions. This has been selected at a conceptual level for the army whereas it is being practiced daily by the units in the field. Each soldier has thus to acquire the knowledge and capabilities required to provide him with the behavioral required security in front of the challenges linked to the operations.
Putting together the Army’s systems (system of systems)

The capabilities required from the army in operations serve as a starting point for planning equipment development programs. They must be analyzed in relation with categories of forces and structures. The objective is to provide the army with systems of systems based on capabilities in relation with the options of engagement, and to supply the corresponding equipment.

This is a solution that relies on the idea that the Army in operation will only be able to deploy its entire efficiency if it is based on several systems regrouped within one interoperable system of systems. That regrouping of systems applies to the major units, the brigades and the divisions that are optimized for their operational missions by taking into account the forces categories as well as their fundamental capabilities based upon the principle according to which the operational organization must be reflected in peace time organization and training (train and organize as you fight).

This implies that, for all capabilities present within the regrouped army systems, the corresponding equipment must be available.

Renouncing to some elements of the system would reduce or even endanger the required effect.

And even a partial implementation of a reduced quantity of equipment would not initially provide a significant gain in matters of capabilities.

Due to the lack of financial resources, it will not be possible to achieve the entire regrouping of systems within the Army in the short term. This is why the required improvement of the army capabilities will be achieved in several stages that will offer transitional solutions. In priority, it is required to guarantee, at least, an initial capability with regards to operations. It is possible to talk about initial capability when a force of a size of a combined arms task force can be entrusted in an autonomous way with an operational mission. No unit is supposed to be able to do everything, however the entire Army must be capable of providing the required contribution to meet all the joint challenges. Since there are shortfalls in matter of equipment at the initial capability level, there is today a need for regulation and coordination which, from an operational point of view, is hardly acceptable.

It is only after having achieved the basic capabilities for the various sub systems that the volume will be such that it will become possible to reduce the measures of organization and that a clear definition of responsibilities and a unique distribution of the resources will guarantee the operational readiness. The initial capability constitutes then the first step towards the achievement of the basic capability, the basic capability will be achieved when all systems, regrouped within the system of systems are fully equipped and their regrouping within a brigade size operational unit is achieved.

In view of operational engagements, it has to be required, at least, that the basic capability regarding the material development of system of systems within the army, be achieved; this would constitute the first set of equipment. In that stage army force enablers as well as elements of the joint support service and of the Bundeswehr’s medical service should also be present.

Even if it can only be achieved in the long term thanks to the acquisition of modern and expansive equipment, the envisaged and required capability must imperatively be achieved. This implies the acquisition of additional sets of equipment. It is only then that all the units will have at their disposal, at the organizational structure level, the equipment required for education, training and engagement. That requirement must remain the objective for all what regards planning equipment development programs.

1 French Land Logistic Force Command.
2 French Logistic branch school.
3 Major Weber, graduated from the Defense College, he is a specialist in human science, he graduated from the university. He is also G3/G4 at German liaison detachment’s direction level.
In future conflict, it is clear that the emphasis will be on joint operations and, as a result, British forces will operate as part of a multinational force. The battlespace will be non-linear with few or no ‘safe’ areas, and with the probability that the national administration may well have collapsed, exposing the force to a wide range of threats. Security, one of the British principles of war, and protection, a key component of capability, assume an even higher importance in joint operations. This demands Force Protection doctrine covering both the joint and multinational contexts, providing the framework for the comprehensive protection of the deployed force, preserving its fighting strength, in order for it to achieve its mission with minimum casualties, both in terms of personnel and of equipment. The multinational aspect of likely future operations means that British doctrine must link into and reflect the Force Protection doctrines and procedures of allies and coalition partners.

BY LIEUTENANT COLONEL JAMES W RUTTER, BRITISH LIASON OFFICER TO CDEF

The operational environment

The operational environment provides a number of factors that increase the degree of risk involved in modern and future operations and a comprehensive and coordinated approach to Force Protection is needed to counter them. Future operations will be joint, and probably multinational and multi-agency. They may encompass conflict prevention, conflict and post conflict activities, and will be dominated by uncertainty and the threat of rapid escalation. Asymmetric threats are probable. The national components of a multinational force, although ultimately responsible for their own protection, may be reliant on other alliance or coalition members, or indeed the host nation, for some protective measures. They may also have responsibilities for Non-Governmental Organisations (NGOs), elements of the civil population, or their own and other specified nationals in the case of a non-combatant evacuation operation.
The battlespace will be non-linear, with the possibility of several operations taking place simultaneously. The enemy can be expected to attempt to exploit this with a number or combination of attack options. These could include elements of his land, maritime, air or special forces, a range of missiles, directed energy weapons or even weapons of mass destruction. Added to this, the force could be confronted by terrorist acts by state or sub-state actors or sympathisers amongst the civil population. If this were not enough, the non-linear nature of the battlespace increases the risk of fratricide.

There may be a breakdown in law and order resulting in chaos, organised crime, banditry and the overt influence of war lords. There may also be a large movement of refugees, within, into and out of, the Joint Operations Area, possibly initiated by an adversary or faction, which (intentionally or otherwise) would influence, or interfere with, military operations. The force will need to take measures to prevent this. Furthermore, any breakdown of civil order could result in the spread of prevalent diseases and this, possibly combined with climatic extremes, would greatly increase the health risk to the force. A lack of Host Nation support (HNS) could result in a high level of dependency on the force’s organic logistic systems and secure lines of communication. The use of locally employed manpower in the form of interpreters, drivers and domestic staff, also poses a further potential threat.

Any operation will be the focus of much international and diplomatic activity and the force will inevitably be the subject of media scrutiny and pressure. This will quite naturally have implications in terms of enemy attempts to influence opinion and alter perceptions.

The aim of force protection

It is this background of different hazards and threats that effective Force Protection doctrine must address. Force Protection can be defined as a process which aims to conserve the fighting potential of the deployed force by countering the wider threat to all its elements from adversary, natural and human hazards and fratricide. In warfighting, as far as is practicable, Force Protection minimises, and mitigates the effects of the threat from overhead attack systems, weapons of mass destruction and the environment. It also minimises the threat to rear operations in general and reduces interference by the civil population with military operations, allowing the commander to concentrate on his mission.

However, in addition to attacks by conventional forces, there is also the threat of attacks by extremists. These may be indigenous or from a third party, and could manifest themselves in a number of ways, from guerrilla and terrorist action to intelligence gathering and civil disturbance. In stabilisation operations, such activity may be the main threat. The primary aim is then to protect the force from, and mitigate the effects of, these attacks, and to reduce the level of popular interference in military operations, thus minimising casualties and reducing any loss of materiel.

**Principles**

The British view is that Force Protection should be guided by the following principles:

- **Risk Management.** Force Protection should be based on risk management, not risk elimination. Sadly, casualties, deliberate or accidental, are a reality of military operations, and the desire to avoid them totally may well impact adversely on the achievement of the mission. A balance of risk is required within the context of the campaign end-state.

- **Joint and Multinational Concept.** Force Protection must embrace all force components, including civilian support, within the JOA, and address all aspects of the threat.

- **Prioritisation.** Notwithstanding the above, it is unlikely that the capability will exist to protect all force elements to the same degree. Priority should therefore be given to Centres of Gravity, both tangible (ISTAR assets or logistics), and intangible (such as coalition cohesion or political will as influenced by public opinion).

- **Flexibility.** Force Protection policy and measures must be flexible and capable of responding to a rapidly changing threat, although availability of resources may limit that flexibility.

**Dealing with the threat**

Force Protection is a risk management process based on threat assessment, the results of which determine measures addressing protection, security and health and safety. An overall threat assessment should be conducted as part of the planning process, taking account of any political guidance and directives. Once the force has deployed, the threat assessment will be refined taking into account localised assessments of the impact of, for example, local differences in the ethnic or political affiliations of the civil population. Where more than one adversary exists, their...
varying intents, threats and capabilities must also be included in any assessment. Such work may reveal a threat to the home country itself or to its forces in other theatres. The threat assessment will need to cover a number of factors and elements including enemy capability in various fields, terrorist, criminal and insurgent organisations, the attitude of the population, the mine and IED threat, culture and the environment. Threat assessment is a continual process.

As the situation changes or new intelligence is received, measures need to be reviewed and adapted to the new situation. Subordinate commanders need to conduct local reviews. Throughout, overall coordination of Force Protection should remain under the control of the JTFHQ.

Following the threat assessment, appropriate protective measures can be decided. The threat assessment also informs the targeting process; as the best or indeed, only, form of defence against certain threats may be attack. In considering Force Protection, the measures necessary fall into several broad categories: Force Level Protection, Security, Health Risk Management and Mine Defence.

- **Force Level Protection.**
  Force level protection will normally be the responsibility of the JTFHQ and will involve a number of different elements depending on the nature of the operation. Missile, air and NBC defence may feature along with the demands of logistic and physical protection. Information Operations (offensive and defensive) will need to coordinated as part of any campaign plan as will Electronic Warfare, Psychological and Operations Security (OPSEC). Counter Surveillance measures preventing the locating and targeting of friendly forces will be important as will Battlespace Management in order to reduce the risk of fratricide.

- **Security.** Security covers the physical and procedural measures, directed at JTFHQ level and integrated into the overall plan, but mainly applied at local level. It is aimed at minimising direct and indirect attacks on personnel, equipment, installations and lines of communication by other than the adversary’s main forces. In operations where the adversary does not possess an air, theatre missile and NBC capability, security will probably form the main constituent of Force Protection. Some security measures will affect the civil population and, as such, must be subject to appropriate legal advice which may need to incorporate the requirements of international law, Host Nation law, and any extant status of forces agreements or Memoranda of Understanding (MoU). Elements that need to be factored in to any security planning include means of control of the civilian population (border and port controls, control of refugees and displaced persons, curfews), base, installation and personal security, defence of the lines of communication (mine clearance, defence of key points, patrols), information security and liaison and cooperation with indigenous forces and police.

- **Health Risk Management.**
  Health Risk Management aims to minimise preventable casualties and to ensure that where casualties do occur, the appropriate resources are available to treat them. It follows a similar process to the overarching Force Protection process.

- **Mine Defence.** The threat from mines can be significant, not just to the deployed force, but to adversaries, warring factions, and the indigenous population. The clearing and/or marking of mines and IEDs, as well as the use of out of bounds areas must be a priority.
Summary

Force Protection is not something that can be addressed separately or in isolation. It is an integral part of operations and must be incorporated into the commander’s plan from the outset. The production of an accurate and comprehensive threat assessment, covering all the constituent elements mentioned, will enable the production of an initial set of offensive or defensive Force Protection measures which address the actual threat.

Proposed measures must be judged and balanced against the mission and operational requirements, with the emphasis on risk management. For example, patrolling in armoured vehicles in a Peace Support Operation might send an overtly aggressive message which could undermine the mission, while, in a warfighting operation, the unnecessary wearing of NBC Individual Protective Equipment could impose severe individual and collective degradation.

As we have seen, sound Force Protection is a cyclical process which assesses the threat and provides appropriate measures to reduce the risk from elements of that threat. The implementation of some measures may not be force-wide; as, the threat, as well as the measures adopted, may not be uniform and may be subject to frequent review and change. The final selection of Force Protection measures is made by the Commander, and these must be coordinated with other disciplines such as Battlespace Management, Information Operations and Command and Control Warfare.
**Force Protection**

as Part of the Spanish Security Concept

The “Force protection” concept is not new. Indeed, we have seen in history since the antiquity that all military commanders, at all levels, have been conscious that it is necessary to keep their total forces’ combat effectiveness to get committed in the best conditions. However, this approach is currently incomplete, owing to the large variety of missions carried out by the armed forces, applying any kind of geographical scenario, with very different climates, in various situations and using miscellaneous assets, but also because of the sensitivity of current democratic societies regarding casualties. This sensitivity has increased in such a way that decreasing casualties has become a basic and inherent factor in the mission of any military commander in action. It has become **one of his major responsibilities during basic and field training and during garrison’s life.**

For a few years, force protection has been included within the Spanish doctrine body in various publications. Lessons learned from the latest operations go for **amending the definition in accordance with the larger “security” concept** and they require a new doctrine development.

**by Lieutenant Colonel Emilio BORQUE, Liaison officer to the Forces Employment Doctrine Center**

**Force protection in Spanish doctrine**

In the Army’s reference doctrine “Employment of land forces”, force protection is dealt with as a **fully-fledged joint operational action**, like C2 (Command and Control), air defense, information operations or Airspace Control. These activities are characterized by their standing presence and by their independence towards operations in progress, though their influence requires them to be coordinated and controlled at the operational level.

In land force doctrine, force protection is defined as “all the activities, in connection with all operational functions, that provide security by preserving force’s combat effectiveness thanks to actions that decrease combat and non combat hazards”. It favors our freedom of action by making easier a timely use of a specific combat capability at the right place; and, on the other hand, it makes it more difficult for the enemy to locate, attack and destroy our force. Force protection should rely on a **series of basic factors**:

- **Multinational and joint feature**: force protection should be applied to all its components, and multinational and joint co-operation should be looked for, as well as co-operation with civilian organizations.

- **Risk management**: force protection should rely on minimizing the risk to make it bearable; we should not think of eliminating it, which is utopia, as “zero risk” does not exist.

At operational level, force protection is embodied through a **set of actions** in connection with:

- proactive defense of facilities, centers, populations, etc...;

- facilities’ maintenance;

- information operations (INFO-OPS) in connection with the protection of C2 systems and information and telecommunication systems;

- using the most convenient pieces of equipment, vehicles and teams ;

- enforcing the measures that guarantee the best security and medical conditions for a force in operation.
At tactical level, it is achieved thanks to proactive measures, such as fortification works, CBRN (Chemical, Biological, Radiological and Nuclear) protective measures, covering forces, and reconnaissance operations. It also includes a series of passive measures, such as deploying and scattering units and resources, concealment and cover, surveillance, warning and maintaining discipline in the use of all the assets that produce telltale clues.

The security concept in operations

There are several definitions regarding the “security” concept in the various documents. As regards the doctrine of employment of land forces, security is an operational concept: “namely, we have to protect ourselves against enemy actions, and to avoid being surprised”.

However, there is a larger development in intelligence doctrine and security rules specific to the Army are broken down into four components:

- Physical security: all physical measures aiming to enable facilities to run smoothly, by preserving their integrity, as well as the integrity of personnel and equipment inside of them, by denying unauthorized access in order to protect them against damages, theft, spying and sabotage.

- Personnel security: measures aiming to protect civilian and military personnel working for the armed forces from aggressions out of military facilities.

- Information security: all measures necessary to reach the right, proportionate and reasonable level of information protection by preserving confidentiality, integrity and availability, whatever the physical support.

- Organization security: namely, measures required to detect, identify, assess and, if necessary, neutralize individual and collective attitudes and activities from armed forces’ personnel and civilian manpower that are likely to harm the forces.

Intelligence doctrine and security rules specific to the Army are broken down into four components. Security in operation includes two main components: operation security (OPSEC) and tactical security.

Operation security is the process through which a military operation is provided with relevant security thanks to the enforcement of active and passive measures to prevent the enemy from becoming aware of our dispositions, capabilities or intents.

Tactical security includes all the measures, procedures, and activities implemented by the forces while carrying out their missions to prevent any direct action from the enemy or the adversary, and avoiding to be surprised. This is achieved thanks to relevant deployment, concealment and cover, and surveillance, protection and covering forces, etc...

During operations, physical security and personnel security are embodied by some measures whose purpose will be the maintenance of combat effectiveness for committed forces. All these measures are known as force protection measures. This is the reason why there is a more appropriate definition in the joint
doctrine draft, according to which force protection “includes all preventive measures to minimize the vulnerability of personnel, equipment, facilities and activities in front of any threat and in all situations, to keep the freedom of action and to take part in the mission’s success”, which corresponds to adapting the definition included in NATO doctrine (AJP-01 C and AJP-3 A). This definition - more concrete and better fit to operation reality - will be taken into account when the Army reviews this concept.

Force protection measures

Among others, force protection would include the following measures:
- physical security measures for bases and facilities;
- security measures for personnel;
- medical security measures;
- protective measures for combatants’ moral;
- ground-to-air protection measures;
- CBRN protective measures;
- protective measures against mines, explosives, and IEDs (Improvised Explosive Devices);
- functional protective measures (when employing teams, vehicles and armament);
- measures to respond to emergencies;
- measures to recover personnel and equipment;
- Meteorological warning measures.

All these measures will rely on a sound assessment of risks and threats thanks to information collected pertaining to all forces’ holds. Therefore, it is necessary to:
- detect, identify and assess all direct and indirect threats that are likely to affect the military force and its personnel, its equipment, its facilities, its activities or its information;
- review and assess the specific vulnerability in respect to detected threats, by pointing the most likely risks and by allotting priorities;
- suggest, enforce, and assess the efficiency of security measures, as well as their amendment, if necessary.

Lessons learned from the latest operations show that it is necessary to amend the force protection concept, a basic element that enables to enforce units’ combat capability, and hence favors the freedom of action.

Yet, we should include force protection into a larger security concept, to reach a set of measures aiming to decrease force’s vulnerability (personnel, equipment, facilities and activities). Reviewing threats, hazards and vulnerabilities will enable to draft a catalogue of measures to be implemented, among which the definition of pieces of equipment to be procured cannot be ruled out.

Thus, force protection is a concept drawn from NATO doctrine, which now requires to be reshuffled in order to adapt it to current reality and to develop all closely related consequences.
FM 3-10 Protection - New Doctrine for the US Army

Force Protection has been a buzz word in the US Army for years but, Protection, as it is now called, has taken on new meaning since the events of 9/11 and the Global War on Terror (GWOT). The term applies to many aspects of the Army from protection of bases, to vehicles and to soldiers.

For example, US Army bases in the continental United States used to be open to the public but, post 9/11, they are now surrounded by fences and barriers with access control gates and guards.

Vehicles which support GWOT are no longer thin skinned but up-armored to protect their crews from Improvised Explosive Devices (IEDs).

And, soldiers wear ever improving Outer-Tactical-Vests (OTV) with body armor inserts to protect them against bullets.

Force Protection is a state of mind for the US Army both in garrison and during deployment.

Ft. Leavenworth, Kansas is the home of the Combined Arms Center (CAC) and one of its most important subdivisions, the Combined Arms Doctrine Directorate (CADD).

CADD is in the process of writing and updating a number of US Army Field Manuals (FM) with input from Lessons Learned (L2) in both Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF).
Biological, Radiological, and Nuclear (CBRN) Operations, Safety, Explosive Ordnance Disposal, and Operations Security. For example, commanders must pay particular attention to fratricide avoidance during Offensive operations when fratricide incidents are more likely to occur. However, during Stability operations, the commanders’ focus shifts to protecting security forces (Survivability) which patrol through the local population.

The above diagram depicts the Protection WFF amidst the other five WFFs along with the 12 Protection Tasks and Systems. Threats and hazards are continually present during military operations and the Protection Cell must determine what assets to protect.

Another advent of the Protection WFF are Protection Cells and Protection Working Groups which exist at the Division, Corps and Army level commands. The cells focus on specified, implied and mission essential protection tasks, measure their effectiveness, and determine if they achieve the desired effect or meet the commander’s intent. If not, the commander may assume risk or provide more support for a specific protection task. The working groups develop the critical asset list and defended asset list for the commander’s approval. There is no protection cell or working group at the Brigade Combat Team (BCT) level, however, the BCT provides a liaison officer for the Division level Protection Working Group.

**Protection within Military Decision Making Process**

The Military Decision Making Process (MDMP) is critical for commanders and their staffs in the operations process to analyze protection. During planning, commanders determine what they are going to protect and the Protection Working Group assembles a list of critical assets for mission success.

The Protection Cell conducts risk and vulnerability assessments with input from the G2 in order to determine the overall Critical Assets List (CAL).

This cell continually updates the list based upon changes to the mission and situation.

And, those assets which the commander decides to protect with available combat power then become a part of the Defended Asset List (DAL).

When commanders prepare for an operation, they ensure that their plan is revised, the Quick Reaction Force is ready, and rehearsals are conducted. Once the Protection Cell perceives a threat to one of the critical or defended assets, it contacts the unit responsible for protection and the commander’s plan is executed.

Assessment takes place throughout the operations process to determine the overall effectiveness of the plan. Likewise, commanders employ Composite Risk Management (CRM) in the MDMP to assess risk whenever there is a major change of events in the friendly situation, Rules of Engagement (ROE), or political, civil or environmental factors. “They can reassign resources based on risk assessments to the overall mission. The goal is to do this in a proactive manner, before potential failure, rather than react to an unplanned loss.”

CRM is also important because it provides a means of recognizing hazards in order to control risks during operations.

Hazards can vary but they are all negative to the mission because they can cause injury or death to personnel and damage or loss of equipment.

There are three types of hazards: hostile actions (i.e. IEDs or suicide bombings), non-hostile actions (i.e. vehicular accidents or equipment malfunction) and environmental conditions (i.e. weather and disease).

The Protection Cell and Protection Working Group use the sequential five step process of CRM in order to:

1) identify hazards,

2) assess hazards (probability and severity),

3) develop controls (establish the Critical and Defended Asset Lists) and make risk decisions,

4) implement controls (resource allocation for protection), and

5) supervise and evaluate (did the controls work?).
2) Personnel Recovery is the Protection Systems and Tasks: regards to the aforementioned FM 3-10 provides greater detail with Operation Picture (COP); and, it is important to note that protection is not a finite function because operations can continue for a very long time as is the case with OIF and OEF.

FM 3-10: Details about Protection Systems and Tasks

FM 3-10 provides greater detail with regards to the aforementioned Protection Systems and Tasks:

1) Air and Missile Defense (AMD) protects personnel and assets (i.e. military bases) from air or missile attacks. The Counterrocket, -artillery, and -mortar (C-RAM) is an example of AMD which has received a great deal of publicity during OIF because of its use to thwart mortar attacks on Forward Operating Bases (FOBs). The C-RAM can destroy an incoming projectile before it reaches its intended target.

2) Personnel Recovery is the overarching term for operations to recover Isolated, Missing, Detained or Captured (IMDC) personnel who are in danger. A soldier is listed as IMDC if s/he is unaccounted for, is taken hostage or becomes a Prisoner of War (POW). All Army units must have procedures in place to conduct IMDC operations in order to report, locate, support, recover and reintegrate IMDC personnel.

3) Information Protection includes measures used to protect and defend friendly information and friendly information systems; it also prevents the enemy from exploiting them. There are three elements to Information Protection: Computer Network Defense (i.e. detect unauthorized network activity), Information Assurance (i.e. identification of users) and Electronic Protection (i.e. antijamming).

4) Fratricide Avoidance is the commander’s responsibility and s/he must ensure that soldiers maintain Situational Awareness (SA) and can conduct accurate Target Identification to prevent the injury or death of friendly forces. Fratricide Avoidance becomes more complex in coalition operations when soldiers must be able to recognize multinational friendly forces. Appendix A to FM 3-10, provides an in-depth review of Combat Identification.

5) Operational Area Security refers to the protection of any critical assets in the area of operations to include base defense, protection of command and control nodes, area damage control, high-risk personnel security, response force operations, main supply route security, surveillance and incident management.

6) Antiterrorism includes defensive measures to reduce the vulnerability of personnel and property to terrorist attacks. The Protection Cell will assess the threat, assess vulnerabilities of assets and personnel, establish perimeter security, establish internal security, implement physical security measures and establish an incident response capability. The Force Protection Condition (FPCON) System outlines different levels of security to prevent terrorist attacks; the FPCON changes depending on the location and the level of threat. “Big Voice” is an example of a mass notification and warning system used on FOBs to facilitate information flow following an incident such as a mortar attack.

7) Survivability ensures the protection of personnel, weapons and supplies while building the enemy by building a strong defense, moving frequently, using camouflage concealment and deception and, establishing good fighting positions. Hardening is another concept of survivability through which natural or man-made materials are used to protect personnel, equipment and facilities. The use of HESCO barriers and concrete walls are common hardening structures on FOBs to protect them from the impact of rockets or mortars. Engineers play a key role in Survivability.

8) Force Health Protection focuses on the medical threat (i.e. disease and non-battle injuries) during operations. Preventive Medicine Services includes the mandatory immunizations of soldiers before, during and after deployments to ensure the health of the force. Veterinary Services check food, ice and bottled water in theater to prevent possible contamination.

9) CBRN Operations serve to protect personnel and military bases from chemical, biological, radiological and nuclear incidents. Toxic industrial materials, which can cause mass casualties, are considered weapons of mass destruction. The Army focuses on counterproliferation (which includes elimination, active defense and passive defense) and consequence management operations.

10) Safety is paramount at all times during operations and commanders use CRM to identify risks to soldiers. Unit safety officers ensure that commanders are aware of safety related issues and they also serve as members of the Protection Work Group.
Training, incorporating lessons learned and implementing controls during operations help reduce risks. Soldiers now employ Tactics, Techniques and Procedures (TTPs) for vehicle rollovers to protect the gunner and crew from serious injury or death.

11) **Operations Security** is the process of identifying information and friendly actions observed by enemy intelligence during operations that could eventually be used against friendly forces. Units employ operations security in their Standard Operating Procedures (SOP) in order to maintain secrecy.

12) **Explosive Ordnance Disposal (EOD)** reduces the effects of CBRN hazards in order to protect combat power. EOD units called upon a regular basis in the GWOT to identify, render safe for recovery and dispose of explosive ordnance whether it is an IED, stuck round, unexploded ordnance found on deceased persons or captured enemy ammunition.

As stated earlier, **protection is a long term WFF** and the missions in OEF and OIF require enduring protection.
for the Army. FM 3-10 dedicates a chapter to Protection in Force Projection Operations and it describes how protection is applied during all four phases of the deployment process:

1) Predeployment Activities,
2) Movement to Port of Embarkation,
3) Movement to Port of Debarkation,
4) Reception, Staging, Onward Movement and Integration (RSOI).

When traveling through commercial seaports, for example, protection of assets becomes very complex for Army units because multiple agencies are involved such as: the Surface Deployment and Distribution Command (SDDC), US Transportation Command (TRANSCOM), Military Sealift Command and US Forces Command (FORSCOM). Units will sometimes designate deploying soldiers, called “supercargoes,” to board the transport ships in order to maintain and secure unit equipment until it arrives in theater.

Finally, RSOI, or “force closure,” marks the end of the journey from home station to the theater of operations. It is a critical juncture where protection becomes paramount. In an immature theater, for example, where there is little infrastructure, the enemy can take advantage of incoming forces as they move forward into the area of operations.

In conclusion, FM 3-10, Protection, is an all encompassing document that addresses pertinent Protection WFF issues affecting Army units in all aspects of military operations. It is an effective tool for commanders, staffs, soldiers and leaders, that incorporates lessons learned from GWOT in order to maintain unit readiness in garrison and preserve combat power during deployment operations.

1 CADD estimates that FM 3-10 will be finalized in March 2008.
2 The Six Warfighting Functions are: Movement and Maneuver, Intelligence, Fires, Command and Control Sustainment and Protection.
4 Protection is the responsibility of the Brigade Provost Marshal (FM 3-10, Protection, p. 1-6)
5 FM 3-10, Protection, p. 2-5.
6 C-RAM is now referred to as "Indirect Fire Protection."
7 Destroy WMD and its delivery system.
8 Contamination avoidance, protection and decontamination.
9 Actions taken following a CBRN attack.
10 FM 3-10, Protection, p. 5-8.
11 Ibid.
The 2nd (FR) Armored Brigade in Afghanistan

“Together Let’s Make Peace Progress”

A quick glance at the current equipment of the US, British, or German forces deployed in Iraq and Afghanistan shows the extent to which both these theaters have got harder. The force protection issue had quickly become significant and there is no longer any headquarters without its force protection cell or at least its force protection officer.

The 2nd Armored Brigade, committed as the head of the NATO Regional Command in the Kabul area, from December 2006 to April 2007, took part in developing this concept, which goes far beyond the sole control and security of the facilities occupied by the force. In fact, it relies on a large span of specific equipment and well identified tactics procedures encompassing many active and passive measures, which at best enable to avoid blows, at least to decrease their effects.

However convinced also of the obligation of adapting its equipment to be better protected, the main lesson learned which the 2nd Armored Brigade drew out of its two major operations is that force protection mainly relies on the capability to win the battle of confidence toward the Afghan population and its local leaders.

First, this conviction came out by assessing the threat against which we had to get protected in a country that had been an expert in guerilla warfare for over two centuries. Then, it was fostered by observing the consequences inferred from the unavoidable increase in force protection measures. At last, it did not underestimate the ambition of the “interagency” CIMIC (Civil Military Co-operation) approach required in the field, including Afghan security - Army and police - forces and local authorities into the coalition.

BY LIEUTENANT COLONEL BENOÎT PARIS, 2ND ARMORED BRIGADE

A more powerful and better targeted threat

Guerilla warfare, a well-known Afghan expertise

“You, the French, we love you. First we’ll kill the Americans, then the British, and the Germans, and eventually the French”. This joke should have gone round all Pamir battalions that had been deployed since 2002. Behind this special humor, guerilla-seasoned combatants’ self-confidence seeped through; these combatants were heirs to those who managed to defeat the British Empire Army on three occasions, and who overcame the powerful Red Army a few years later.

These highly ruggedized warriors, able to cross snow-covered passes at over 4,000 meters, to be holed up in high-altitude caves for days, to raid and disappear, rule over a particularly hostile environment and they are accustomed to the price of blood. Indeed, this price of blood is an integral part of the code of honor, according to which any crime must always be avenged by the family, the clan or the tribe, which led some people to support that “each time the coalition kills an innocent, it creates five insurgents”.

Now, the country had become a huge weapons and ammunition depot because of twenty years of fight against the Soviets and then of civil war until the Talibans seized power in
1996. In these conditions, the first challenge for the force was thus to determine whom it had to deal with.

Who is the enemy?

This was the question General McNeill asked his G2 when he succeeded to General Richards as the ISAF Commander on February 4, 2007. **Against whom do we fight?** Who sets up ambushes? Who lays bombs among people queuing up in front of Afghan police or Army barracks?

The Taliban? Al Qaeda? Gulbadin Hekmatyar’s Hezb-e-Islami? Those disappointed by the regime, tired of waiting indefinitely for better living conditions? Warlords wanting to recover their autonomy? Drug smugglers protecting their profits? Poppy growers worried to lose their incomes? Mafiosi keeping on a profitable chaos? Who support them? Who hid them?

In the field, platoons and squads realize every day and every night that the enemy is actually within the population even if the population is not our enemy. Thus, the slogan “civilian by day, insurgent by night” appears as a constant that could be applied to Afghanistan in the early 21st century like to the 20th century’s guerilla warfare.

In fact, this hides a recent evolution in force ratios and of processes employed.

The Afghani conflict becomes like the Iraqi one

When ISAF set up in 2002, ambushes and rocket attacks were the only threats in the vicinity of the capital. However, the situation deteriorated rapidly: **2005 was the turning point,** the year when the number of IED attacks skyrocketed and suicide attacks appeared, and then sharply increased the following year.

Late in 2006, a road accident caused by a US truck resulted into violent riots in Kabul and mortar attacks became commonplace in the south and in the east of the country.

Early in spring 2007 and before the 2nd Armored Brigade’s mandate was completed, the two most lethal attacks against the coalition at that time were two suicide attacks: in Bagram and Kabul. Two other ones were narrowly thwarted and two IED attacks failed, very likely thanks to on-board jammers.

**These attacks were characterized by their accuracy.** A mortar shell-based IED precisely hit the driver’s door of a German vehicle on the move in late December 2006 in Kabul. They also increased in power, with charges up to 100 kg that could turn round an Italian 6x6 Puma armored vehicle or a US armored Chevrolet.

Eventually, some attacks against the coalition were carried out - from that time onward - with the concern of avoiding civilian casualties by hitting in towns’ outskirts or in the few open areas, free of any housing or stalls.

Moreover, when an ISAF soldier, to protect himself, got out of control regarding the use of force or **“ROE escalation”** injuring or killing an innocent man who came too close to his vehicle, journalists happened to arrive on scene before Afghan security forces.

Therefore, the force was submitted to an invisible, unpredictable, and more powerful threat and to a standing media pressure that exploited the slightest mistake. Each of its losses is turned into a media event and exploited by the opposing party to recruit new combatants.

Every collateral damage is turned into a media event and exploited the same way to discredit the force and to make its action illegitimate.

**Necessarily adapting force protection**

**Securing premises accessible to local manpower**

Three main kinds of threats are currently weighing on a facility such as Camp Warehouse where we were: mortar or rocket fires, suicide attacks in vehicle or on foot and, less directly, drugs consumption owing to its effect on operational combat effectiveness.

Thus, a combination of these active and passive measures had been developed to counter these threats. Against the fist one - particularly difficult to prevent on urbanized terrain - the “rocket belt” that overwhelmed Southern, and Eastern Kabul was regularly criss-crossed by land and air patrols and a contingency plan had been activated on several occasions.

Then, within an environment where suicide bombers and vehicle-borne IED (VB-IED) increased, the daily checking of 500 to 600 civilian clerks and of all kinds of vehicles at the “main gate” was reinforced with biometric devices, in addition to CCTV cameras or jammers aiming to prevent remote explosive activation.

Above all, procedures were regularly updated and used during exercises, in order to be able to find shelter for a small international 2,000 inhabitant, 14 nation city rapidly and in order, while reinforcing security measures, evacuating the victims of an attack and keeping a maneuver capability out of the camp.

**Securing movements**

Since the first Pamir battalion was deployed in 2002, the protection of French contingent’s movements had increased a lot. **VLTT P45** and **VLRAs** (soft-skin light trucks) were replaced by **VABs** (wheeled armored vehicles) and **VBLs** (light armored vehicles), from now on equipped with jammers; and servicemen had to systematically don helmets, body armor and wear weapons for any movement.

At RC-C level, departures and arrivals of battalion’s vehicles are forwarded to the JOC (Joint Operation Center). This center immediately informs all the “mobiles” of a situation change in the area that could require - for example - to stop movements and shelter moving vehicles into the nearest coalition facility. Moreover, movements of isolated vehicles were forbidden and...
a standing coordination of convoys moving through the RC-C area was carried out with the neighboring Regional Command - East (RC-E).

Eventually, in April 2007, vehicles were hardly equipped with force tracking systems. The advantage of such a system was obvious and we clearly saw the basic contribution provided by battlespace digitization in such an environment. Nevertheless, minimizing risks had limitations and some procedures clashed with actual traffic in a city with over one million inhabitants. It was true that it was totally illusory to make local drivers comply with safety distances to detect likely suicide attacks, despite compulsory signs on the rear of armored vehicles enjoining them not to get too close.

Moreover, lookouts in VAB and VBL were easily overwhelmed by passengers perched on bus’ roofs or atop trucks criss-crossing the area.

Increasing security in operation

During the 2nd Armored Brigade’s mandate at the head of the RC-C, force protection for committed units was a permanent concern that led us to systematically combine land and air assets.

First, every day about sixty day and night patrols conducted by the battalions were reinforced with heliborne assets. Then, the French Caracals and the Italian AB212 increased joint missions, with teams from the unit committed in the field aboard them to increase observation and detection capabilities and make liaisons easier.

Then, the French TACP (Tactical Air Control Party) regularly trained to guide day- and night-CAS (Close Air Support) from Caracals in order to have a contingency support capability available at any time to the benefit of far-off patrols.

Eventually, IED burner missions - aircraft equipped to make IEDs explode - were systematically required during both major operations carried out in the Musayi valley and in the Surobi district.

All these actions were carried out alongside with a regular updating of IED awareness and the mastery of dedicated procedures in the Indian, Turkish and French battalions, and in the British and Portuguese companies.

All these active measures were complementary to a real capability to bear attacks without any major damage. In Afghanistan, the Americans used only up-armored Humvees. The cabs of their logistic trucks were also protected and new vehicles that were like armed and armored trucks were progressively deployed.

Similarly, the Germans developed a span of “armored trucks”, optimized against the effects of mines and IEDs, equipped with suspended seats to soften the shock effect and on-board weapons - served under armor and remotely controlled. Some of these “trucks” weighed nearly as much as an AMX30B2 (30-ton class main battle tank) and trials were being conducted to adapt the “Leopard 2” to these constraints. Indeed, the Canadians announced that they intended to deploy some of them in the south of the country.

However, could a force that “encrust itself into security” still win hearts and minds?

An initiative to keep, to win population’s confidence

Changing grounds to take advantage again

Far from being de facto a kind of cowering defensive, increasing protection keeps on the force’s combat effectiveness. Therefore, it provides it with a serious advantage to keep initiative and to strive toward its own goals, without being ever subjected.

Of course, patrols on foot, donned with helmets and on watch, created an atmosphere and thus a specific relation with the population, radically different from what it would have been, when donned with soft hats and joking with shopkeepers. Similarly, units that drove through villages with closed hatches and hardly slowing down very little contributed to gain hearts and minds. However, limiting casualties as much as possible was a requirement and this was the reason why we had to take the initiative again by gaining the population on another ground: win-to-win relationship including local authorities.

This relationship relied on a double approach. In the field, on the one hand it initiated cooperation and established confidence through small and repeated training and drill actions, complementary to joint patrols with the Afghan police and Army.

On the other hand, at the level of institutions, it gathered those responsible for Afghan civilian security and military forces and local elected representatives to prepare for a peace making operation while taking the specific economic requirements of a given area into account.

All in all, it stated and materialized a joint action carried out by civilian and military actors at tactical level, and considered by the “Interagency” concept at strategic level.

Accelerating the process: from Afghan face to Afghan lead

This concept was applied in the field during operation “Magnet” in March 2007, in the “Surobi” district that controlled the road to Pakistan, east of Kabul. During the “shaping phase” that lasted about two months, in January and February 2007, the RC-C headquarters completely included the 201st Afghan corps headquarters, as well as police forces and intelligence services to define the goals of the operation and to plan it. The intent for the maneuver, chosen in common, was presented jointly to the ISAF headquarters and the operation order was jointly drafted and disseminated.

Then, during the decisive phase, police and Army units got committed with the support of the intelligence service, alongside with RC-C ones, to recapture the control of both valleys abandoned to insurgents.
This double approach enabled the Afghan forces to shift from an executive role to an actual C2 (Command and Control) role in the operations. Thus, the inadequate auxiliary status was put aside and it became a partner status; this partnership provided us with the knowledge of the terrain and especially the human, religious and political realities of an area to be pacified. The motivations of troops and headquarters became stronger and tactical efficiency improved.

In addition, if the international force took advantage of it, in particular regarding its protection, before all the very local forces developed their capability to carry out security on their own inside their sovereign country.

Therefore, it was a decisive stage toward the desired end state of the international force, which had been drafted during operation “Magnet”. Materializing security action as an advantage for the population

The last section of this win-to-win contract, the most important one, was set up with the civilian population. During the preparatory stage, it consisted in informing the population and especially in listening to it during major “shuras”, meetings of the elders, during which needs and expectations were addressed. However, distrust and doubt were not erased within a population weary of not seeing the promises of improvement in its living conditions materialize, five years after the commitment of the international community.

Therefore, it was important to make an impression on minds during the deployment phase by organizing the inauguration of a hospital and a school by the governor of the district, accompanied by the RC-C commander, the 201st Afghan corps commander and the chief of police. Thus, these very practical achievements enabled to make the whole of the population understand that increased security made immediate development possible. This “military” stage in the field was thus synchronized with CIMIC operations - handing out clothes and food, medical and veterinary support - and local and regional communication operations to increase their values.

By setting the area under the control of reliable security forces again and by defusing the latent hostility of a disappointed population, the French RC-C mandate did thus prepare for a susceptible longer-term development to the benefit of three major initiatives: health, education, and opening up for the most out-of-the-way areas.

Lessons learned

Force protection, a virtuous circle

Threats existed and their increase was known. Then, it was necessary to adapt equipment and procedures and reassess the conduct of operations.

Ideally, adapting equipment should aim to better master “active” force protection, thanks to sensors, jammers, unit movement indicators in the field and the capability to timely share a tactical situation. Improvements provided by battlespace digitization were included in this logic.

It should also provide us with an optimized “passive” protection, thanks to armors, shapes and ergonomics enabling to take strikes with as-low-as-possible casualties.

However, above all, the value of these technical assets should be increased by a “win-to-win” concept for joint operations, relying on a civilian-military synergy launched as early as the planning stage, then supported in the field through the synchronization of force deployment, rebuilding operations, and information operations.

In conclusion, if a force should be totally confident in the capability of its equipment to protect it and to take blows, joint action carried out in confidence with local forces is its best weapon against insurgents, it best source of information and therefore its best security.

Today, our motto “Together let’s make peace progress” highlights these prospects for the future.
UNIFIL Force Protection in Southern Lebanon

A Tricky Tradeoff between “Bunkerisation” and Freedom of Action and of Movement

Between an open conflict and stabilization, the so-called transition phase is perhaps the one that poses most problems in matters of force protection. It is the case in Southern Lebanon theater where UNIFIL, is deployed. Securing the ground, reassuring the populations, providing humanitarian assistance, cooperating with Lebanese armed forces with the aim of eventually transferring them Southern Lebanon’s control, all these key actions of a transition phase require unconstrained freedom of action and freedom of movement which cannot accommodate a disproportionate physical and psychological “bunkerisation”, whereas the level of threat against the force remains high. This imposes thus a tricky tradeoff and a fragile fleeting balance which remains the commander-in-the-field’s responsibility which is based on a permanent and dynamic analysis and for which the psychological factor plays a major role. A major risk exists: altering the very spirit of the mission.

By Brigadier General Philippe Got, Commander, Artillery Brigade

To deter is “the” prerequisite for an efficient Force Protection

On the 12th of August 2006, the UNSCR 1701 was voted that paved the way for a cessation of hostilities between Israel and the armed militia of the “God’s party” - the Hezbollah - after 32 days of violent combats with no one being defeated, at least in the belligerents’ minds. One can remember that during the July 2006 war, 16 UNIFIL positions were directly attacked by the Israelis and received about 130 shells, and that 4 observers belonging to the “Observation Group Lebanon” were killed at Khiam by direct fire. Early in September the UNIFIL was reinforced and reorganized around a nucleus of powerful and deterring capabilities which were, for the most part, provided by France, to guarantee the cessation of hostilities and the implementation of UNSCR 1701.

Main battle tanks Leclerc, infantry, self propelled 155 mm artillery, counter battery capability, air defense, high performing HUMINT and technical
intelligence capabilities as well as counter IED jammers, these are the capabilities that characterize the French operation DAMAN within the UNIFIL and constitute the foundations of the global and coherent force protection required by the French Chief of Staff of the armed forces. Protecting the force, this actually means first, deterring anybody to attack it and also to make it be known. The Israelis understood it well when, on 31 October 2006, 2 flights of 2 F-15 fighters aircraft simulated firing missions over a French position which triggered the initiation of a firing procedure by the MISTRAL’s platoon. The determination that was demonstrated on that occasion and the immediate publication of the incident by the media made that all low altitude flight over French positions ceased rapidly. Similarly the almost instantaneous counter battery capability achieved thanks to the AUF1 gun/Cobra counter battery radar couple became a key element of force protection.

To protect oneself: a delicate balance between constraints and mission

On 24th of June 2007, UNIFIL’s death toll rose with 6 soldiers being killed when a Spanish armored vehicle was hit by an RCIED; which reminded us all of the reality of the asymmetric threat that was posed by the many armed groups present on the Lebanese territory. For the UNIFIL, this event has been a key one: first, the brutal materialization of a threat that had, up to then, only been foreseen but not made actual, was to have a major psychological effect on how to tackle the mission; secondly it was to initiate the implementation of constraining protection measures.

The psychological effect had to be understood at several different levels. First for all the contingents contributing to the multinational force, the 24 June attack had been perceived as an event that could happen again at any time, against anyone without any distinction. From then on, no patrol was to reach an intersection or a bridge or to pass by a stopped vehicle without having in mind that possibility. It was also the case for those who were giving orders.

For some of the contingents that were under equipped for protection, it was very much tempting to limit by themselves their way of accomplishing the mandate, especially when a pressure in that direction was made by the political power and/or a public opinion that was not very much inclined to accept human losses. Following the 24 June attack, it became obvious that several of the UNIFIL’s contingents had adopted a more restricted vision of what freedom of movement meant.

Against that type of threat, protection measures are quite constraining.

Thus, in front of RCIED threat, a response exists (it is not a panacea since the asymmetry principle leads the opponent to conduct permanent adaptations), it consists in using vehicle equipped with frequency jammers. However without accurate intelligence about the type and range of the frequencies used by the armed groups, jamming becomes not discriminating and thus perturbs all communication within the jammed volume, including UNIFIL tactical communications as well as civilian ones. Let’s keep in mind that UNIFIL operates of the territory of a sovereign country, and under Chapter VI of the UN Charter, and thus with the consent of the parties. The decision to implement jamming can only result from a precise analysis of the situation within which the intelligence function plays a key role for permanently evaluating the threat. It also implies that we had taken full ownership of the new technical know-how (frequencies and networks management) as well as tactical know-how (fighting in an IED “ambiance”) which have to be taught in our training institutions and in the units.

The implementation of such constraining protective measures implies thus that the commander in the field conducts a coordinated action and, most of all, a permanent assessment of these measures’ impact on the achievement of the mission.

Area control is a mission that cannot accommodate an excessive “bunkerisation”. UNIFIL’s daily bread comprises about 350 patrols a day, daily meetings with mayors and mokhtars, medical support to the populations, conduct of CIMIC projects, etc. This corresponds to a permanent immersion within a population that has to be taken away, as much as possible, from the Hezbollah’ unique influence which has at its disposal very efficient means of propaganda. It is thus imperative to protect oneself but this could lead to question the very spirit of the mission if protection was to consist for the force to withdraw back onto itself. It becomes thus a question of subtle proportioning between
protection and proximity that has to be established in each type of situation and that, most of the time and within the general framework which has been established by the higher command, has to be done at the leader in the field’s level. It is thus a matter of initiative and situation awareness.

An excessive withdrawal back onto oneself, under the pretext of maximum protection, may also have a negative effect on the force’s image in the populations. “UNIFIL is scared”, are the words that could be heard during several meetings between local authorities and military commanders in the days that followed the 24 June attack when the decision was taken to impose the wearing of ballistic vests by everybody (a decision that was cancelled later on).

1 That word is used to express the fact that a force would withdraw back onto itself both physically (not moving outside of the barracks or camp) and psychologically.
2 UNIFIL 2 or reinforced UNIFIL is the force deployed as a result of UNSCR 1701 at the end of the summer 2006 conflict between Israel and the Hezbollah. Equipped with powerful means and capabilities, which is different from the first UNIFIL, it operates under robust rules of engagement.
3 The Observation Group Lebanon belongs to the UN Truce Supervision Organization (UNTSO) established in 1948. UNTSO operates in Southern Lebanon under the UNIFIL’s OPCON.
4 Name of the French operation within the UNIFIL.
5 French very short range air defense weapon system (missle).
6 Religious leaders, who constitute in the villages a parallel hierarchy as important as the one of the “civilian” elected authorities.

Force protection is a dynamic process.

Having at one’s disposal “protective” combat capabilities, implementing passive protection for all of our facilities, developing and implementing permanent measure of protection for our convoys and patrols..., constitute a set of prerequisite conditions, however they are not sufficient to protect a force. The variety of the threats, their fleetingness as well as the political context and its exposure to the media are also factors that have to be taken into account. For that last point, it is not exaggerated to say that a political statement made at home about the situation in the Middle East or about the Lebanese internal politics, may have a collateral effect in the field and may make change the attitude of certain parts of the population towards the corresponding national contingent or even cause a real threat. This is the sort of tension that occurred several times on the Lebanese theater.

It is thus necessary to reassess permanently the threat level, which requires to make use of all intelligence sensors available and to implement a regular exchange of information with the strategic level back home. It is then necessary to evaluate which measures of safeguard and protection are required and to balance them against the spirit of the mission to be achieved. Eventually the decision will always be a trade-off, which the commander will have to take the responsibility of.
The Achilles Myth
Lessons Learned Evaluation from Iraq and Afghanistan about Force Protection

In order to support his 2008 defense budget last December 1st, President Bush reminded that “the first priority of Congress should be to ensure fundings and to act with the necessary flexibility so as to guarantee the protection of [American] troops...”. Actually, 35 billion dollars are dedicated to that aim in the 2008 budget allocated to operations in Iraq and Afghanistan. This emphasis on protection can be explained mainly by the comparative scarcity - and therefore the high cost - of the Western soldier. But it is mostly due to the enormous impact of casualties on public opinion, an impact which is magnified by the increasing media coverage of operations.

Lessons learned from allied commitments in Iraq and Afghanistan thus show that force protection has become a permanent concern for Western armed forces. But it also highlights the paradox of the implementation of such an absolute requirement within the specific context of counterinsurgency operations amongst the populations.

Aggressiveness, ingenuity and fanaticism on the part of the Iraqi and Afghan opponents have induced the coalition members to invest huge means in order to protect their troops. However, it may be observed that on these same theaters force protection cannot boil down to a technological challenge. Besides, this concept seems to prove counterproductive when it is taken to extremes. Thus, for not very long, there has been an in-depth reconsideration of this principle within the framework of the gradual changes affecting the American doctrine for counter-insurgency operations.

BY LIEUTENANT COLONEL RANDAL ZBIENEN, CDEF/DREX

New armors

The technological superiority of Western armed forces results in particular in their capacity for protecting their soldiers with more and more efficiency.

In the Spring of 2003, the overwhelming allied victory over Saddam Hussein’s forces (at a very low human cost: 156 dead) can be explained to a large extent thanks to the good level of protection of armored and mechanized units. Thus, as an illustration of this, all British armored vehicles which entered Basra are reported to have been hit at least once by RPG-7 fire. Individual ballistic protection systems also turned out to be essential in order to preserve strength: only 9% wounded were hit in the trunk. This protection also proved crucial in supporting morale and retaining the initiative, as General Wallace, commanding V (US) Corps, emphasized: “After Najaf I think our soldiers have also acquired extraordinary confidence in the guarantee of survival provided by their equipment”.

Since then, almost all GIs deployed to the Iraqi and Afghan theaters have been equipped with the high-performance individual body armor system (IBAS). Moreover, engagements on urbanized terrain as in Falujah have demonstrated that combatants are most often hit in the upper part of the body, with serious wounds in the face and unprotected areas of the chest. The US Army has therefore procured 130,000 additional protection plates, and the US Marine Corps purchased 28,000 reinforced protection systems. Similarly, since March 2003, nearly 16% MEDEVAC operations have been performed because of eye damage. This is why the decision was made to equip each American soldier with protective goggles.

In the same way, as early as the offense phase, the question was raised as regards stationing and movement security in “rear areas” because Fedayeens attacks had escalated. Needless to say that this concern has...
kept growing during the months following the “end of major operations”\(^2\), along with the building up of Iraqi guerrilla. The huge allied bases (currently about one hundred of them) have been gradually strengthened with the latest technologies available: surveillance and detection systems against intrusion\(^3\), strengthening of facilities\(^4\), entrance’s controls... In order to rationalize support, and also because of protection imperatives, they have gradually been turned into huge bunkers. On a smaller scale, the same gradual transformation has been observed in Afghanistan, the Warehouse camp in Kabul, under French command since the summer of 2006, being a typical example.

But because of the growing IED threat, it is perhaps in the area of movement protection that the most significant developments have been observed. This threat has actually grown exponentially in Iraq as well as in Afghanistan, and has come to be the first cause of allied casualties. The first solution to this challenge consisted in reinforcing vehicle protection. As an example, all American Humvees\(^5\) have thus been gradually upgraded since 2004. In the same way, the French Army has improved its light armored vehicles’ armor (VBLs), after IED attacks in Afghanistan in 2006. At the same time occurred the issue of the vulnerability of on-board armament crews. Until the generalized fielding of remotely operated fire systems\(^6\), ballistic protection plates have been roof-mounted. Such requirement have been recently emphasized by the French “équipements d’assistance opérationnelle” (OMLT) inserted into Afghan kandaks\(^7\). Last, new equipment, sometimes quite innovating, has been developed in order to remotely neutralize IEDs: land robots\(^8\), lasers\(^9\), electromagnetic jammers... It should be observed that the Army also was equipped with jammers in 2006, fielded within the units committed in Afghanistan.

Within a few years, the Iraqi and Afghan theaters have thus generated dramatic progress in the area of force protection. However, in spite of the huge means which have been allocated, this progress appeared to be less decisive in the stabilization phase than in the intervention phase - a more classic one - which occurred before it.

### The chink in the armor

We can only observe that the results on the theaters of operations have not met the expectations of the technical and financial means implemented for protection. In some cases, they even appear to be particularly counterproductive within a context of counterinsurgency among populations.

It is true that in Iraq the killed/wounded ratio is something like one to ten, but on the other hand more amputations are performed than in the preceding wars. Similarly, new pathologies have appeared. Helmets and improved body armor systems enable soldiers to survive close detonations, but do not ensure immunity to neurological damage. Since 2003, around 250 cases of brain damage have been observed each year, half of which are permanent ones. This is the reason why American neuropsychologists think that this kind of pathology is becoming emblematic of the ongoing war, just like the “Gulf War syndrome” in 1991. Moreover, if the US Army in Iraq has the best wounded survival ratio ever in any conflict, it is certainly due at least as much to the efficiency of its medical organization, and mostly to the increasing number of skilled personnel in combat units, as to the implementation of individual protection means\(^10\).

As regards military bases, even if they are now hardly ever subjected to direct attacks thanks to the in-place deployed protection systems, they are increasingly becoming the targets of indirect surface-to-surface harassing fire\(^11\). Thus, the threat is constantly increasing in Afghanistan\(^12\). In spite of millions of dollars invested in C-RAM warfare\(^13\), it has been impossible to annihilate the threat for the moment, and even if it causes very few casualties (%), it is still hovering over allied camps, in particular over the large ones.

Lastly, in spite of extensive funding of anti IED warfare, this threat has constantly been growing, with a climax of more than one hundred attacks a day in Iraq in March 2007. There has been an increase in the power of explosive charges used in these attacks: explosively formed projectiles (EFP), which are more efficient, have appeared; attackers now engage most often targets which have a lower degree of protection (logistical transport...); they use more and more complex systems in order to beat counter-measures, particularly electronic ones (multiple IED chains, mechanical activation systems...). Besides, the increasingly numerous suicide\(^14\) attacks over the two theaters seem to be extremely difficult to counter efficiently. Thus that IED threat has intensified so significantly that in 2006 President Bush referred to it as “the main threat to [American] troops and to Iraq’s future...”. This is why doubts started to appear as early as March 2006 in the American press\(^15\): the financial effort in this area was compared to the “Manhattan” project\(^16\). At that time, 6.1 billion dollars had already been allocated to it; now, since then, the investment will be over 8 billion dollars\(^17\). However IEDs have been the cause of 80% of American losses in Iraq in 2007. For many people, this peak epitomized the failure of the current anti-IED policy, because the ongoing race appears as an always belated response, an endless cat-and-mouse game. That headlong rush may even remind one of a kind of inverted “star wars”\(^18\), similar to that which the Americans had imposed on the Soviets in the late 1980s...

Alongside with that crisis of anti-IED warfare policy appeared some pernicious effects of a thorough implementation of force protection guidelines in a war “among the population”. The most perceptive observers have fully realized that speedy movements in armored convoys, and concentration of units in large, overprotected bases were not likely to bring about an atmosphere of confidence; they could even generate a feeling of exasperation. More fundamentally, the extremist propaganda of “insurgents” allows to assess the counter productivity of some protection measures on the collective psychology of societies which have a traditional conception of war. It is easy for this propaganda to contrast the self-sacrifice of “Allah’s martyrs” with
Western soldiers’ faint-heartedness. Indirect harassing fire against allied bases, in spite of its military inefficiency, is actuated by the same will to strip them of all credibility, especially when it is directed against highly symbolical targets; like the “Green Zone” in Baghdad.

The mixed results, or even the obviously counterproductive effects of a number of protection measures have therefore gradually modified the perception of this concept, in particular in the US Army.

The shield of the population

The Americans very quickly realized that protection measures of an exclusively passive nature would remain insufficient. But it took them more time, and particularly the degradation of the situation in Iraq in 2006 and early 2007, to really start giving up the classic conception of force protection.

From the beginning of 2004, a research paper21 showed that not the most heavily armored convoys, but those which showed the greatest aggressiveness, most often eluded IED attacks. Actually, as early as in 2004, the US Army systematically strengthened the self-defense capabilities of its logistical convoys and, to break with the “Taylorization” which had hitherto prevailed, all soldiers, whatever their specialist skills, have been better trained to contact fighting22. Engagements on urban terrain, particularly in Falujah, corroborated the feeling that response capabilities were a crucial complement to passive protection measures. That requirement prevailed in the development of more ergonomic individual protection systems, ensuring improved mobility (see Individual Body Armor Systems, IBAS). Besides, the French soldiers of Operational Mentoring & Liaison Teams (OMLT), who are often committed in combat operations, ask for lighter body armor systems for themselves. It was the same logic that led to the development of new well-protected, but also well-armed and more mobile vehicles, such as the German Dingo or the MRAP23 program for the US Army and the Marine Corps. These light armored vehicles would better meet the requirements of such engagements than the add-on armor on current vehicles, whose efficiency proved limited. As an example, the US Army obtained a 5.3 billion additional budget grant in 2007 to be equipped with 1,520 MRAP vehicles.

Simultaneous with that reassertion of attack as the best protection, organizations24 in charge of anti-IED warfare have gradually turned to an overall approach to that threat25. Passive protection and response capabilities having proved insufficient to eradicate it, the idea is to get upstream to tackle the problem of the production chain of these devices, as well as the bomber recruiting organizations. That prevention endeavor results mainly in the strengthening of intelligence capabilities and, in particular, in armed forces taking over police-type investigation techniques26. An overview of this evolution came out with the dissemination of a Pentagon Defense Science Board report on “force protection within a non-conventional urban environment”27. That report emphasized that an overall approach to protection should be performed, including intelligence and offensive actions, and that the local populace should be taken into consideration.

However, the dramatic change in the American perception of force protection appeared in 2007 only, in particular with the publication of the new counterinsurgency Field Manual28, and especially with the appointment of its designers to the positions of highest authority, more noticeably General Petraeus. Drawing on a number of local successes, like those achieved by the Ready First Brigade of 1st (US) Armored Division in Ramadi, and also on older operations (Vietnam...), FM 3-24 thus expounds some iconoclastic principles.

For instance, it reminds that in this type of engagement, excess of security measures is counterproductive29. This FM advocates, in particular, a return to a networked area of responsibility through a large number of small autonomous posts, rather than concentration of troops in large bases30. The hard facts in the field have consequently led the Americans to rediscover common sense solutions which are traditionally carried out by the French army.

This new conception is now implemented on a large scale in Iraq within the “Surge” framework at the instigation of General Petraeus, the new coalition commander since February 2007. The first evaluation of this new offensive strategy, which makes of the Iraqi population a major issue in the conflict, seems promising. The decrease in violent religious clashes occurring since mid-June (a 46% decrease compared with 2006) is the most tangible evidence of the improvement of the security situation.

But this improvement is also the result of a close to 30% decrease within two months in IED attacks. This would tend to show that the new American counterinsurgency strategy quite


**Lessons learned evaluation process**

So this progression should be corroborated in the future, all the more so as it is now acknowledged at the highest level of the American Administration, in particular by the Secretary of Defense.

Directly contributes to the improvement of force protection. So this progression should be corroborated in the future, all the more so as it is now acknowledged at the highest level of the American Administration, in particular by the Secretary of Defense.

1 The “Jessica Lynch affair”, after an American maintenance company had been ambushed, was the most media-covered episode of it.
2 After President Bush’s phrase on May 1st 2003.
3 Particularly aerostat surveillance systems (RAID system).
4 See the “Force Protection Barracks” program using hardened modular structures (in particular "E-Glass" bulletproof windows), as well as terrain organization systems (of the "Bastion-wall" type), and prefabricated protection systems (of the "T-walls" type).

5 Particularly by deploying explosive detection and biometric identification systems (see “Entrance Check point” system).
6 In Iraq only, more than 14,000 “Humvees” have been provided with additional armor, and the US Army is now carrying out the final phase of the fielding of 5th generation add-on armor kits (source: “US Army News Release”, February 13th 2007).
7 See, for example, the American “Lightning” system.
8 Operational Mentoring & Liaison Teams.
9 Units of battalion size.
10 More than 1,000 terrestrial robots are currently deployed in Iraq by the American Army.
12 Treatment is actually provided within ten minutes after most wounds have occurred, in other words well before the “Golden Hour” time allowance.
13 "Rocket - artillery - mortar" (RAM) threat.
14 772 attacks in 2006 and over 1,000 in 2007.
15 Anti - RAM warfare: cf. all-round firefinder radars, interceptor gun systems ("Skyshield" and "Phalanx MK-72").
16 Their effects are more or less similar to those of shaped charges.
19 In constant dollars, the cost of facilities for the production of plutonium necessary for building the first nuclear bombs.
20 4.3 billion dollars in 2007, another 4 billion requested for FY 2008.
22 After the phrase “Every soldier is a rifleman”.
23 The Mine Resistant Ambush Protected program plans for the procurement of nearly 18,000 MRAP vehicles for the US Army, and 20,000 for the USMC in about ten different models, among which, noticeably, the Cheetah and the Cougar.
24 Particularly the joint improvised Explosive Devices Defeat Organization (IEDDO), an American organization whose task is to coordinate anti-IED warfare on a joint basis.
25 Cf. the “Silver Path” (which can be translated into French by “processus vertueux”).
26 Cf. examination of marks of explosives on suspected individuals.
29 FM 3-24, chapter 1 (1-149): “Sometimes, the More You Protect Your Force, the Less Secure You May Be”.
30 FM 3-24, chapter 1 (table 1-1): “Unsuccessful practices: Concentrate military forces in large bases for protection”.
31 Cf. Mr. Robert M. Gates’ address to the Association of the US Army (AUSA) on October 11th 2007.
32 Cf. General (USMS) Mattis’ address to liaison officers on November 28th, 2007.

Lessons learned from Iraq and Afghanistan doubtlessly corroborate the fact that protection is a legitimate requirement of Western societies, and therefore an imperative for their armed forces. Advances made in technology may contribute to it, and armor protection allows boldness provided it does not hamper the force’s mobility, responsiveness and aggressiveness. But the lessons learned also show that threats must be comprehended on a holistic basis, and that it is always better to regain the initiative by attacking their sources. Last but not least, they remind that the means should not be substituted for the ends, and that in the area of counterinsurgency, no protection is better than the winning over of the populace, which deprives rebels of their support. Thus the US Army has gradually rediscovered some know-how that the French had gained from their colonial experience, and which it would be advisable to cultivate.

After all is said and done, the problematics of force protection in Iraq and Afghanistan epitomizes, in more areas than one, the difficulties that Western armed forces have in comprehending the new forms of conflictuality. The current radical shift in doctrine of American armed forces acknowledges the failure of blindly relying on technology in everything, as well as of the modernist belief in zero-casualty war, when they are confronted with opponents who are well acquainted with Western postulates. As a last mishap of the age-old dialectics between the spear and the armor, this problematics also evidences the limits of an exclusively responsive posture, based on a different conception of time: Western armed forces are subjected (essentially because of media coverage) to the dictatorship of urgency, which may lead them to adopt solutions that in the long run will prove ill-adapted or even counterproductive. This is why some senior officers are beginning to call into question the blind faith in adaptation, which does not rely on any deep prior research. Thus in the area of protection, as in many others, the wars in Iraq and Afghanistan actually appear as laboratories for the current crisis of the Western military model.
Protecting Bases and Logistic Flows in Ivory Coast (Operation Licorne)  
(February to August 2005)

Because of the extent of the theater of operation (two thirds of France), of the battalions scattering, of the surface area of their AORs (Areas of Responsibility), and of terrain difficulties, operation Licorne, studied under the aspect of logistics security, has a **specific interest regarding lessons learned**. Besides, this example shows rather well that a situation that could seem to be stable or secured could rapidly shift to a state of crisis - about which it is better to have anticipated its consequences, in particular about the most vulnerable component of a force, i.e. its logistics.

**BY COLONEL GILLES DE CLEENE, FRENCH ARMY INSPECTOR GENERAL’S OFFICE**

Security situation in the theater

The situation early in 2005

In February 2005, after replacement of Mandate 7 and the withdrawal of the Bn TF (GTIA) North, some 4,000 servicemen were still in the theater, whose deployment can be described as a triangle with its summit downwards.

November 2004 events are still in sight. The murderous, quite unexpected air attack in Bouake, unrest in Abidjan, the economic capital, launched in coordinated response against the French reprisals on armed Ivorian aircraft, the threat on the military base in Port-Bouet, which led the French Commander to order GTIA 1’s armored raid on Abidjan and the use of armed helicopters to deny rioters to besiege the Force’s CP and hence, to cut if off from the airport, are still in everybody’s mind; besides, it resulted in planning works started in the theater joint CP (PCIAT), which included all lessons learned from these difficult days.

From a logistical point of view, we could say that the disposition taken up by the force, as it was at the time of the crisis, appeared to be quite appropriate. Indeed, events confirmed the validity of an **advanced logistic base in Tombokro**, at the starting point of all logistic routes: thus, its medical and surgery group (GMC), which miraculously had doubled physician strength for replacement purposes, enabled WIsAs from Bouake to be taken in charge within shortest notice, and thus, to save many lives. Similarly, the existence of this base, with all logistic assets available, was in a position to perform the role of an advanced support base, either northwards, or southwards, to the benefit of committed maneuver forces, as it was the case, by the way, for the night armored raid carried out over 300 kms by GTIA1 towards Abidjan.

Progress during the first half of 2005

Despite worrying rumors that were likely to make us afraid of trouble in Abidjan, the situation remained quiet during the first half of 2005, except for the Western part along the Southern boundary of the confidence building buffer zone; in this place, a series of killings - of ethnic or crooked character - occurred (acts of violence from road mobs), that resulted into victims among the population and contributed to keep a very strong insecure climate in this area; it could only contribute to discrediting Licorne, unable to prevent and to stop these crimes within the very area which itself and the United Nations Mission in Ivory Coast had been entrusted with.

The relative stability of this theater during that period enabled logistics’ mission to be carried out without any difficulty and without having to change a disposition that had proved its efficiency during the late 2004 crisis. Nevertheless, logistics, either in
its static organization (bases) or during movements (convoys), was not for all that - protected from any threats.

Probable threats

Obviously, Ivory Coast was neither Iraq nor Afghanistan, and apart from the attack in Bouaké and riots in Abidjan, Licorne had never been faced to violent attacks towards its forces, and even less to terrorist attacks. Nevertheless, stability was only apparent and population's fickleness - a common phenomenon in African countries - was likely to make it tumble into more or less violent hostility (November 2004). In front of such a kind of scenario, the vulnerability of an isolated logistics base, like Tomboko, or of logistics convoys, like military road transportation, was an obvious weakness.

Besides losses and even without mentioning casualties, we imagine what the effect of a blocked convoy, attacked by an excited and manipulated crowd, for example between Tomboko and Man, with looted trucks, manhandled, even lynched crews, who would not have been able to use their weapons, would be in the theater and in French and international public opinions!

Just the same for the logistics base in Tomboko, which had neither CRC (Crowd and Riot Control) company equipped with relevant crowd control equipment and reduced lethality weapons, nor infantry units with crew-served weapons to meet such disturbances (and without mentioning likely sabotages against ammunition dumps and POL tank farms). In such cases, in the French commander's mind, it was unbelievable to be caught by surprise just because elementary cautions about stationing and movement security were not met.

Licorne logistics system and its weaknesses

The logistic structure

It relied on a system of bases including, on the one hand a theater joint logistic base (BLIAT), the only POE (Point of Entry) for all supplies coming from France - relying on the facilities and structures of the 43° Blima (French Marine Infantry Battalion) set up on Port-Bouet base and, on the other hand a forward base set up in a former cocoa factory, in Tomboko, in the center of the theater. This structure, motivated by the extent of the theater (two thirds of France) and transportation issues, was operated by a multi-functional logistic battalion that rotated every four months.

Tomboko base was an isolated facility, surrounded with shrubs or forest, delimited by a mesh wire fence - that could have easily been climbed; it provided us with limited observation capability owing to prolific vegetation all around of it (apart from a watchtower overlooking the ammunition dump) and with no open FOF (Field Of Fire) outside it. Indeed, it was actually vulnerable to intrusions, even to possible attacks.

Logistic issues

As regards Licorne, and unlike other - former or current - theaters (apart from the Gulf war), it was mainly characterized by long-distance transportation: a 6-hour drive was necessary for a convoy to move from Abidjan to Tomboko (300 kms), as much from Tomboko to Man (GTIA 2 Base) and a7-hour one between Tomboko base and the most northern GTIA 1's unit (Korghogo, 360 kms).

As it was impossible to use tactical airlift assets (except for small urgent parcels) - reserved for personnel air transportation including MEDEVAC (Medical Evacuations), supplies relied only on road transportation, i.e. the BATLOG's (Logistic Battalion) transportation platoon. The Ivorian road network had not the quality of European networks, but it was not in a catastrophic state; however, apart from main axes, it was hardly developed and in bad state of repair; thus it provided us with no or few alternate routes, should it have been necessary to by-pass a natural or man-made obstacle (check-point, hostile crowd, even ambush). Therefore, there was a weak point in the supply system, as there was no alternative and it nearly relied on one axis, the umbilical cord for the force, as it used to be with the RC 4 road during the Indochina campaign.

Assets

Unlike the Abidjan logistic base, which was protected by GTIA 43, Tomboko logistic base had no maneuver unit to secure it; therefore, BATLOG® (logistic battalion) units located in that area are in charge of the guard and the initial defense of this facility being prepared to be reinforced by GTIA 1, whose nearest unit was located at Yamoussoukro airport. Combat positions laid out to defend this facility were regularly maintained by the logistic units that successively operated in Tomboko; however, they had but very limited zones of observation and FOFs owing to the insertion of this place in very luxuriant vegetation. In addition, the units have only very few crew serves weapons (50 and AN F1 machine guns) to equip these positions.

Eventually, with regard to logistic units permanently operating within the core of their trade (truck drivers, maintenance operators, medical orderlies, etc.), it was not possible for them to operate mainly in defending the site, except if we admit that logistic support would have been degraded.

Another drawback originating from the very kind of logistic assets: trucks, DROPs often with trailers, HLVs (Heavy Lift Vehicles), or tank carrier trucks had no on-board weapons and they were not fit for this purpose. On the other hand, crews were not provided with protection and they (driver and Truck Commander) only had their personal weapons to respond. Eventually, vehicles were not linked to each other by radio; and logistic units within the logistic battalion were not or hardly equipped with 4th generation radio sets; very often crews talked to each other with their own cellular phones. Eventually, almost without exception, logistic convoys were not escorted, except for escorts provided by the Gendarmerie district Command to move across Abidjan.

Though the situation was quiet and our convoys had had so far no direct threat, the above mentioned weaknesses made up a lot of risks about which the French Commander could not tolerate any stalemate.
Measures taken

Logistic base security

Despite the above mentioned difficulties linked to the very location of Tombokro, and the very few assets organically available to the logistics battalion, the improvement of the defense plan, the laying out of combat positions and the arranging of the outskirts of this location were a standing concern and a tactical priority for the successive logistics battalion's commanders, also commanding the Tombokro base. However, without any engineer support, it would have been impossible to clear this base’s surroundings, regularly invaded by vegetation that denied us any observation beyond a more nominal than actual fence. Furthermore, the logistic battalion had been able - from time to time and when operations made it possible - to take advantage of a security platoon detached from GTIA 1 through one-week rotations. Eventually, the fielding in theater of reduced lethality weapons ordered by Licorne - delivered at regular intervals between February and June -, enabled the GTIAs and the logistic battalion to be equipped with them.

Convoy security

For improved security reasons, convoys have been reorganized on order from the Force Commander, in order to limit the number of convoys moving simultaneously on roads, in support of which the force would not have been able to intervene simultaneously. Thus, there were only two convoys moving at the same time, one on the “upper loop” (between Tombokro and Man, or Bouake, Korhogo) and one on the “lower loop” (between Abidjan and Tombokro); should the need have arisen, they could have been rescued by the force’s intervention elements.

Consequently, beginning late June, logistic convoys had been operating on a weekly basis as follows:
- two " lower loop " convoys, i.e. 600 kms back-and-forth journeys (twice 6-hour trips), with a likely 3rd convoy, if need be;
- two convoys Tombokro, Man (towards GTIA 2), i.e. 640 kms back-and-forth journeys in two days (twice 6.30-hour trips);
- one convoy Tombokro, Bouaké, Korhogo, i.e. 720 kms back-and-forth journeys in two days (twice 7-hour trips).

Moreover, orders were given (FRAGO 9.104, June 24) about the formation of convoys. From that moment on, they were systematically escorted by two armored vehicles at least, with a capability of dismounting a combat group equipped with reduced lethality weapons (of the caliber 12 model). The support element’s leader, responsible for the organization, the momentum, the protection and the attitude should a tactical incident have occurred was tasked to be convoy leader. The commander of the logistic elements that composed the convoy is responsible of his vectors and his crews. He is the adviser to the convoy leader should a technical problem arises during the mission.

A SOP (Standing Operational Procedure) (SOP Nr. 20/J3, August 1, 2005) established the composition of convoys, the measures to be taken and the courses of action to compose, depending on the various levels of alert. Should a higher level have occurred, armed helicopters could have been committed to screen convoys’ movements.

On the other hand, transmission assets had been required from the motherland to equip logistic vehicle’s crews with a within-a-convoy link device (35 TRPP 39 radio sets and 5 additional ones for maintenance purposes).

In conclusion, logistic lessons learned from operation Licorne showed the requirement - so many times confirmed by historical events - not to skip over logistic base security and convoy security within a low intensity conflict but in a quite unstable context, even if this security concern decreases to a small extent maneuver unit’s combat effectiveness.
The Attack of a Division Command Post by Vietminh Forces

The Thaї Binh Night
(3 December 1953)

As soon as General Navarre assumed command, in Indochina, on the 16th of May 1953, he initiated a series of inspections of the territories and forces under his command. The inspection report, submitted to government authorities for approval, is now known as the “Plan Navarre”. This plan that was characterized by a cautious approach attitude aimed at containing the Vietminh battle forces during the 1953-1954 campaign - that corresponded to the dry season - , its objective was, in the Tonkin province, to protect the Delta and to preserve it from any worsening of the situation while opposing any action in force by the Vietminh. It is only during the following campaign, 1954 - 1955, that the commander in chief intended to conduct an offensive operation aiming at destroying the enemy’s battle forces.

BY LIEUTENANT COLONEL CLAUDE FRANC, SPECIAL PROJECT OFFICER AT CDEF/DEO

The “Mouette” Operation (October–November 1953)

In order to be able to oppose any intrusion in force of the Vietminh in the Delta, French military authorities had to locally create a favorable or at least balanced forces ratio. Since 1950 the basic maneuver unit had not been changed; it was the “mobile maneuver group” (GM), i.e. a unit gathering a command post, a light signal company, three infantry battalions, and a mortar company. The threat presented by the Vietminh’s battle corps corresponded in 1953 to the engagement of one or several divisions. It was thus imperative that General Navarre reorganized his own forces by creating, out of the expeditionary corps units, one or several of these combat echelons. This was the Saigon staff’s objective: as of the fall of 1953, two divisional size echelons were operational in the Tonkin province: they regrouped four mobile maneuver groups (GMs) controlled by a strong command and control echelon comprised with a headquarters, a divisional artillery commander, a HHQ company and a heavy signal company. The two first commanders of these “division echelons” were colonel de Castries and colonel Vanuxem.

By the end of August and early September, the enemy’s field organization that was, up to then, widely spread across the Thai country and the High Plateaus region was reorganized in a tighter way by Giap around the Delta with two major groupings: one pressing from the north and the other from the south east; in the Delta itself, the enemy infiltrated several regular regiments on both sides of the Red River, east of Hanoi. There was no doubt for the land forces’ commander in North Viet Nam Cogny’s intelligence division that Giap’s intent was to isolate Hanoi from Haiphong, which would have constituted a mortal danger for the maintenance of the expeditionary corps’ lines of communication in the Tonkin province.

In order to counter that offensive, Cogny’s intent aimed at destroying the bases of the enemy’s force of maneuver within the framework of a preemptive operation. This was the origin of the “Mouette (i.e; Seagull)” operation that was to involve both divisional echelons (8GMs), 2 armored groups, 2 amphibious groups and important means from the general reserve. Air support was provided by air assets deployed in the Gia Lam and Bach Mai bases, located at a 15 minutes flight from their zone of intervention.

The French operation was launched on the 15 October, the very day when the Viet offensive was to start - French leadership was convinced of it - and it surprised entirely the Vietminh’s military authorities whose reactions were very incoherent. General Gilles who commanded the operation organized his maneuver with method and precision: departing from the Cho Ganh gap and controlling rapidly...
the RP59 at Lai Cac, he ordered during the following weeks the Castries and Vanuxem divisions to conduct several raids into the jungle to destroy the Viet depots. In order to avoid being surprised and ambushed in that sort of terrain which is very favorable to that enemy course of action, he paid a careful attention to never engage his infantry or armored units beyond the efficient range of his artillery and air fire support which were remarkably coordinated and hit repeatedly the enemy’s positions as soon as they were discovered. This method proved to be successful: the Vietminh division 320 lost 1,081 KIA, 182 prisoners and 3,000 injured troops.

General Navarre’s objective was achieved: the divisions 320 and 304 were unable to conduct in depth infiltration operations in the Delta and, even more important, they were both put out of commission for about two months. On 6 and 7th November the operation “Mouette” was stopped, the units left the area and redeployed. General Gilles went rapidly to Hanoi to assume command of the airborne group in charge of the operation Castor. Some of the units were reorganized and the divisions’ headquarters were sent in R&R (rest and recreation) after several smaller size operations at the limits of the Delta.

The attack of a division’s command post

That’s about at that time that, due to the lack of an efficient protection, the command post of the division commanded by colonel de Castray was inflicted what a military understatement would call a “problem”. The command post was in R&R in the Thai Binh region, close to Nam Dinh, without the commander and command group being present - they had left to relieve general Gilles and to assume command of Dien Bien Phu on the 1st of December. The provisional commander was Colonel Piroth, the deputy for fire support. The various services and supporting units were accommodated in town, in the middle of bazaars, restaurants, cafes and red light hotels and they were conducting “post operation rest and recreation activities”.

All these troops were totally intermingled with the population that was however under the intelligence division’s surveillance; on the 3rd of December several “local fishermen”, whose behavior was not very consistent with their assessed activity, had been arrested and jailed. Observers or enemy spies? As long as the locals were continuing to conduct what was supposed to be their usual activities, there was no need to bother them!

On the 3rd, at about midnight, when the last bridge or poker players had left the military mess, the attack started without any support from heavy weapons: a Vietminh commando group infiltrated the position, crossed the small river that flows into the Song Thai Binh (see the figure), neutralized the very few static sentries, burnt the vehicles, got closer to the tents where all soldiers and officers were sleeping and shot them. It was a total surprise. Colonel Piroth had just the time to jump off its burning truck and was deprived from the ability to coordinate efficiently a response. The Vietminh soldiers caught the troops who were trying to get out of the tents, they attached them and took them away. The soldiers who had not been injured tried to flee individually out of the area that was under the Vietminh’s fires. From the top of the watch tower of what had been a military post, a machine gun tried to shoot enfilade fire along the small river to block the withdrawing commando that was trying to join back its supporting element that was installed on the dykes, south of the village.

Following half an hour of a total mess, regroupings took place and emergency measures were taken. The military sector sent rapidly two companies supported by a few armored vehicles to control
the village whose chief had obviously disappeared. The medical doctor13 organized the initial triage and started the interventions. The toll was heavy: 20 KIA - 15 by fire arms, and 5 by knives and bayonets - 50 injured troops and 15 prisoners.

Lessons too easy to learn

The command post's personnel had let themselves be totally surprised.
The CP was however comprised with experienced people with strong character which, on the top of it, had just ended a series of fruitful and even victorious operations.
This demonstrates well that no unit, whatever might be its qualities and value, is exempt of that sort of “problem”.

A mere temporary defensive mining of the river’s well known crossing points would have allowed to either avoid the incident or at least to have more time to react. And as far as population control is concerned, this is a process that remains always uncertain, unless it is made systematic as it will be the case, later, during the Algerian conflict.

In addition, it is important to notice that the Vietminh commando that was well aware of the situation didn’t attack the watch tower - a simple ad-hoc bamboo built building but with its basis being well protected with barbed wire network and mines. This shows that a simple physical protection dissuaded the assaulting party to attack.

And last the choice to deploy the staff services within the population appears to be questionable, since it constituted a major vulnerability: fully observable by the locals, anybody had the capability to freely forward to the local Vietminh authorities first quality target intelligence.

Local Vietminh had perfectly prepared the operation: by attacking a command post, which by nature has few combat means, they perfectly knew that they were targeting a prime choice objective that constituted a weak link in the French organization. It is always the weakest links - command posts, logistical deployments, communication facilities - that have to be protected the most.

And last but not least, even after a series of successful operations, military authorities should never release their attention and even though human organisms - physical and psychological - need phases of rest, this should never be understood as being a generalized liberation without any measure of protection.
Facing a foreseeable reinforcement of the threat constituted by the ballistic missiles, the armed forces have generated a pragmatic answer suited to our needs. The interest for this topic in the Army is obvious owing to the threat weighing on our forces but also due to the close cooperation we have to maintain with the Air Force.

The Theater Anti-Ballistic Missile Defense (TBMD)

Launched as soon as the 80’s by the United States and coupled with the Strategic Defense Initiative, the anti-missile defense was up to now only interesting a very limited experts circle. The re-emergence of a credible threat in a close future, the technological progress recorded and the recent American initiatives have given new dynamics to this issue. Today it represents a real political, industrial and technological challenge.

France provides a pragmatic and suited answer to the right need for forces protection which keys for understanding are given hereafter.

By Lieutenant Colonel François-Yves LE ROUX, Planning Division, Army Staff
The reality of the threat and risks

The reality of the threat and risks is real due to the dissemination of the arsenals and the development of technologies, but the current threat needs to be qualified. Since the beginning of the 80’s, the society of States owning and developing ballistic technologies has been significantly slimming down. However, today, it is possible to identify two types of holders of such technologies:
- countries which have just decided to gain this capability;
- States which are highly determined to carry out ambitious programs with, what is more, the support of technology transfers.

The current level of performance of available missiles is limited but the appropriation of new technologies will sooner enable to improve accuracy as well as range of weapons which launchers are most of them mobile.

The proliferation of platforms and the use of military nuclear warheads are seen to be likely to generate “strategic surprises” in the future. Currently, only some short-range ballistic missiles seem to be credible and in sufficient numbers to saturate defenses.

What is the interest for the Army?

The Army is of course concerned by this threat which should normally be dealt with at operational level. Indeed the danger is real as it could have been assessed in 1991 and 2003 during the Iraqis conflicts. Despite its efficiency could be seen today as limited, its likelihood will grow in a near future.

Taking it into account when conceiving and conducting deployments must be linked to the available defense capabilities and their limits since no system will be ever totally impassable.

Another particular sensitive aspect deals with the alert dissemination: reaction times range from a few minutes at best down to few seconds at worst. This implies a level of interoperability with allied systems and between force components which ensures a real-time dissemination of the alert down to the lowest echelons.

The question induced by the fallouts of a destroyed missile also deserves to be studied, in particular, in the case of a mass destruction warhead loading.

Lastly, the development of a defense capability against artillery ammunition (C-RAM) carried out in co-ordination with studies pertaining to TBMD, will ensure in the future the most possible complete protection against threats issued from the third dimension.

The existing systems and the French choice

Facing this threat, both American and Russian defense systems, inherited from the Cold War, have been upgraded to provide these countries with a defense capability of the territory, admittedly limited but assessed to be operational.

The Moscow area is equipped with an anti-missile umbrella notably composed of a radars and missiles system scattered on the whole territory.

Taking advantage of the researches launched since more than two decades, the American shield today has at its disposal the necessary technological elements to make the system work. Thus the Americans shortly should have at their disposal a first global capability, while waiting for the deployment of a site in Eastern Europe.

Due to the lack of a European project, NATO proposes the theater defense program ALTBMb which aims at pooling allied defense capabilities.

1 Active Layered Theater Balistic Missile Defense: ongoing program aiming at pooling the theater anti-missile defense capabilities of the allies.
2 SCCOA: Aerospace operations command and control system.
The risk made up by ballistic missiles is real, but the threat needs to be assessed at its right level. Its likely reinforcement linked to the appropriation by some States of technological improvements justifies the development of a theater anti-ballistic missile defense capability.

Made available to the theater commander, the TBMD will act to the benefit of the whole force components, without ensuring a total protection insofar.

Indeed, a lot of questions and uncertainties are remaining as for the technological achievement as well as the operational efficiency of the systems offered by our allies.
Confronted to the evolution of the threat, especially the asymmetric one, the required synergy between intelligence, and the development of innovative protection equipment as well as the implementation of rules of engagement and behavior should bring a comprehensive response that doesn’t constrain the land forces’ freedom of action.

What System of Protection for Tomorrow?

Most of the equipment that is currently in service was conceived in the perspective of a symmetric type of conflict. The mainly head-on confrontation was to take place on a terrain where fire power at medium and long distance was crucial. This time is fading away. Although it cannot be ruled out, a major war between major powers is not very probable in the future. Most of tomorrow’s conflicts will be dissymmetric or asymmetric. The requirements in matter of force protection are thus deeply modified.

In an environment that is very much exposed to the media, where public opinions occupy an essential position, it is the human lives’ preservation and consequently the freedom of action of all the land component’s levels of command that is at stake. The multidirectional and fleeting threat that often operates at short distance requires thus a comprehensive response.

Upstream, in order to acquire a sound knowledge of the opponent and to monitor the situation, it is necessary to have the ability to inform about the opponent’s complex referential data and to have the capability to efficiently exploit the variety of the collected information. Protection equipments will benefit from technological progress in the domains of active protection and defense against kinetic weapons. However, the choice of a course of action as well as the selection of adapted individual and collective behaviors will remain fundamental for achieving an efficient protection.
A threat that’s evolving and diversified

The proliferation of new technologies in matter of armament, which operation is even optimized by the access to information, changes significantly the traditional characteristics of the threat. This is the case for the vectors (ballistic missiles and UAVs) which are being developed and that could reach a level of performance and reliability that could render their use foreseeable.

The local compartmenting which is a characteristic of urban areas and the courses of action that favor short and very short ranges reinforces the efficiency of anti tank weapons and of weapons of small and medium caliber.

The use of mines and explosive devices, that are always less improvised, complements the action at short distance by maintaining an ambiance of insecurity. The permanent evolution of the techniques of implementation as well as the generalization of the use of these devices during stabilization phases tends to make them become a priority threat on some theaters. In some situations, this results into rebalancing the initial unbalance that existed between the belligerents, by imposing a strong equalizing power: advantages that high technology brings at long ranges fade away in front of saturation fires at very short range.

The actors of violence have also very much evolved: the development of organized criminality as well as the increasing role of the populations, often used as an instrument, have been for several years part of the list of concerns of the headquarters which have developed responses adapted to each environment’s specificity.

Our forces will thus have to face an evolving and diversified threat although the expected effects and targets have not been deeply modified: our opponents will continue to have as a priority objective the soldiers’ physical and psychological integrity as well as the units’ freedom of action.

Understanding the opponent and identifying ones’ own vulnerabilities

In front of this broadened scope of the threat, only a comprehensive response resulting from a complete and often difficult analysis of the opponent can orient correctly the action. The issue consists in identifying and then monitoring an enemy that is fleeting and complex as well as its supporting networks, while denying them the capability to collect information about our forces. An optimal use of the human and technical intelligence’s complementary capabilities bring a satisfactory response with an ability to last and to refocus during the action.

That intelligence maneuver encompasses all available sensors, be they specific or not. The information processing tools will allow to produce useful intelligence within a space time...
framework that is exploitable and realistic for the force. Situation analysis should also allow to identify the force's weaknesses.

**Technological perspectives**

Soldiers and equipment's protection against kinetic weapons remains essential in front of the direct fire arms' dissemination and abundance. It should however not restrain land units' mobility and freedom of action. Protection equipments could thus be developed around three concepts:

- **Passive counter surveillance** ("not to be detected, not to be identified");
- **Active protection** ("not to be located, not to be hit");
- **Passive or reactive protection** ("not to be perforated, not to be destroyed").

Against artillery ammunitions whose launchers will always be more difficult to localize and suppress due to their fleetingness and to the fact that they are deployed among the populations, it is necessary to focus on defensive or protective actions. Technological progress allows to envision the possibility to take into account that specific threat. In order to reduce its physical and psychological impact on the forces, the objective being, at least, to alert the units before the impact and, at best, to intercept the projectiles in flight in order to destroy or neutralize them. These capabilities will be developed with the defense against artillery ammunitions program (C-RAM). They will be completed by the anti-ballistic missile defense (DAMB = TBMD) which is presented in this issue of the magazine.

**Weapons with reduced lethality** concur also to force protection for securing forces' deployment or in front of hostile populations.

And last the **CBRN chain of defense** has been adapted to take into account technological risks and the emergence of biological threat.

These systems of protection will respond to the operational functions' requirements and they'll be able to adjust to the different phases of an engagement. In any case, they should not be regarded as frozen and rigid sets of dispositions.

**The rules of engagement**

Equipment will never be able, by itself, to respond comprehensively to all possible threats. It thus still remains relevant to adopt individual and collective attitudes that are adapted to the situation:

- The acceptance of the force by the local populations constitutes an indispensable prerequisite for both intelligence purpose and because of the degree of hostility that population may demonstrate.

- The efficiency of the vigilance and security measures required during the accomplishment of the mission and that relies on mastering behaviors and on individual and collective know how acquired during training.

- The unit's cohesion and moral strength that will determine its ability not to feel the terror that the opponent wants to instill through the use of diversified and unconventional courses of action.

- Rules of engagement and behavior coordinated for the force altogether that set the objectives and execution's modes and will guarantee that the degree of violence will be kept at the right level.

- These measures must, in particular avoid overestimating the level of protection to be adopted, which would be detrimental to the good achievement of the mission.

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The British are used to presenting the following ratios: a soldier's survival depends for 60% on the implementation of tactics and procedures, and for 30% on the equipment. That ratio illustrates well the comprehensive characteristics of the response to be brought to the force protection issue. However, the development of protection equipment remains a challenge; this is well demonstrated by the current fight against improvised explosive devices. **Our units' freedom of action will remain conditioned by our ability to reconcile an efficient exploitation of technological progress with the adaptation of our courses of action in front of evolving and diversified threats.**

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1 C-RAM: Counter Rockets, Artillery and Mortars.
Even today, technology provides forces with an indisputable superiority over their enemies. Armament programs that are currently being developed, aim to perpetuate this advantage, in particular to the benefit of land forces.

Nevertheless, French and allied lessons learned show us that some adversaries can rapidly develop capabilities likely to jeopardize our forces’ operational superiority in some specific fields.

Then, it is necessary to implement palliative solutions enabling us to restore this operational superiority within shortest notice. Developing this capability - to adapt and to innovate from what is currently in existence - has become a major challenge.

Taking these recent developments into account, the French Army Chief of Staff has decided to review the way land forces could adapt more rapidly and more efficiently to current conflicts in terms of doctrine, training, and equipment, even organization. This decision resulted into a study mandate about reactive adaptation, jointly tasked to the commander of the Forces Employment Doctrine Center (CDEF) and the Deputy Chief of Staff for plans and programs in the Army Staff.

In this perspective, the equipment field is particularly crucial, insofar as their life cycle duration is potentially higher than the likely duration of conflicts. Therefore, the equipment field has an asserted priority in this study jointly carried out by EMAT (French Army Staff) and CDEF, in close cooperation with the STAT, directorates and commands of the French Army to suggest a detailed procedure for reactive adaptation for Army’s equipment, which starts from requirements to decision and leads to positive achievement.

Conclusions pertaining to this study about a reactive adaptation process were agreed by the French Army’s Deputy Chief of Staff on December 19, 2007. In the equipment field, reactive adaptation is defined as the implementation of optimized solutions within shortest notice enabling a force to restore its operational superiority. Taking place between immediate ad-hoc measures and armament programs, reactive adaptation should meet operational requirements by improving an existing asset, by procuring a more performing piece of equipment or fitted with new features, while decreasing achievement or procurement time spans. From this statement, according to which changes in strategic environment are more rapid than the renewal of equipment, clear objectives have been defined to implement reactive adaptation. It is defined as a process enabling to identify the true operational requirement, to exploit all the resources from current procedures and to force times after having assessed risks, to end with the achievement of equipment required by the forces.

*BY LIEUTENANT COLONEL PIERRE VOUTEAU AND CAPTAIN (A) PIERRE DE SOLAGES, DREX/CDEF*
A statement: changes in crises are more rapid than the renewal of equipment stock

Because we deal with expeditionary armed forces, meeting ever changing threats while being committed, renewing stocks (by procuring, improving or upgrading them) cannot be carried out, under strong budgetary pressure, at the same pace as changes in threats, even if the procurement policy anticipates them.

Lessons learned from theaters of operations in Iraq and Afghanistan show us that adversaries control much more than home-made and less organized combat assets while operating in an asymmetrical way. The Israeli Army, considered as the most powerful one within the whole Middle-East, discovered it at its cost during the July 2006 offensive in Southern Lebanon. The emblematic IED-CIED race - also carried out by our forces committed in the Kabul area and within OMLTs - shows the speed at which insurgents can organize to conceive and develop processes ever reinvented within a continuous adaptive cycle.

Therefore, committed forces are likely to face difficulties at any time while carrying out their missions because of a lacking asset or piece of equipment or the absence of a specific feature on fielded equipment. Thus, at theater level, the capability of adaptation of soldiers and the possibility of adjusting equipment is a key for success regarding the mission, and essential for force protection.

Now, our current procedures do not enable us to provide our forces with adaptation within required time spans. Requirements for our forces provided to EMAT suffer from the sometimes vague and always abundant pieces of information forwarded for lessons learned reasons. The definition stage - submitted to processes that are more erratic than iterative - is too long to meet any urgent operational requirement, yet limited in terms of size and costs. During the decision stage, coordination is hardly visible. Indeed, there is no decision-making body tasked to consider any rapid adaptation requirement and to monitor the French Army’s coherence between capabilities without destabilizing other work in progress. Therefore, many current examples of rapidly modified pieces of equipment result from commanders’ specific decisions or local initiatives without any associated review of risks and relevance. Now, the French Army’s coherence implies that EMAT is in a position to arbitrate on a short-term perspective while keeping in mind long-term challenges.

Eventually, there are procedures pertaining to adaptation operations in the field of armament especially regarding the completion stage which are not known enough. This situation often leads to requirements being loosely forwarded and a coordination of operations likely to be improved. Such actions are also essential for legal matters (procurement contracts) and security reasons (equipment qualification before being fielded).

The aims of the reactive adaptation function

In order to decrease requirement times, and to optimize the procurement stage, while improving coordination regarding these actions, it appeared necessary to set up an organization enabling to monitor reactive adaptation operations, following the example of combat and general tasks functions.

The reactive adaptation process has to be monitored by a multidisciplinary team, in particular tasked to clearly identify requirements and to set priorities, in order to provide commanders with the best information to enable them to decide (or not) to launch an adaptation operation.

This team is under the responsibility of an officer from the Army Staff weapon system and program office; the DREX processing bureau at the CDEF – tasked in particular to manage the data base recording reactive adaptation studies - operates as its secretary.

Of course, this team is multidisciplinary and includes permanent members clearly identified in relevant headquarters and agencies. According to the state of progress and the sophistication of
reactive adaptation projects, these members should include experts, in particular from joint agencies.

To probate works carried out by the reactive adaptation team and determine priorities, a decision coordinating committee meets every six months at least at EMAT level, as for any other combat or general task functions. A steering committee, co-chaired by the Deputy Chief of Staff for plans and programs and the Deputy Chief of Staff for operations and support, could meet in case of urgency. Eventually, an overall review of all files in process is presented to the MGAT, at the yearly meeting of the steering committee for lessons learned.

This organization aims to meet the following goals:

- gathering, clearly identifying requirements and fixing priorities, in order to provide commanders with sound information enabling them to decide for the launching of the program or not;
- enabling decision-making, and guaranteeing the coherence of actions by looking for solutions and VA (Value Analysis);
- Monitoring these programs through a specific team and supervising these operations.

The process

Clearly identifying requirements and fixing priorities

First, the Army has to define the appropriate operational requirement. Despite urgent requirements and available “off-the-shelf” technical solutions, it is necessary to define requirements in terms of functionality by describing the operational aim that can be reached and the capability gap that is to be made up for.

This requirement should be expressed by the theater commander, a level close to the terrain and able to assess its relevance (its urgent and vital aspects); and if it has to be met by equipment procurement. If necessary, a technical liaison team should be forwarded to the theater to aid in analyzing and discriminating requirements, but also to consider solutions that can be achieved in the theater.

In order to avoid loose forwarding and to enable to make a comprehensive inventory of requirements, the CDEF is the only POE (Point of Entry) for requirements from various theaters, either getting through CPCO (Joint planning and operations), CFAT (Land Force Command), or lessons learned. For this purpose, CDEF maintains a data base that will also enable to follow up studied reactive adaptations files.

At a first processing level, requirements are sorted, depending on their urgency and their critical level. This stage is essential within an environment of strong financial constraints.

A first review, carried out by the reactive adaptation team, should enable to reinforce this prioritization by complying with consistent capabilities between doctrine, training, organization and equipment. It is essential to be careful to take procurement programs in progress into account in order to avoid any redundancy and to use teams carrying out these works efficiently.

Then, this prioritization has to be agreed upon by COMFATS and COMFLTs, so that the relevance and the urgency of the assessed answer - considered in comparison to the actual operational requirement - are well confirmed.
Preparing for decisions

Requirements considered as having priority and agreed upon by relevant commanders are given multi-criteria analysis, as much in the field of relevance as in this of risks. Indeed, the reactive adaptive team is tasked to gather all data required to submit a decision file to the French Army Deputy Chief of Staff. In these files, the urgency and importance of the requirement are assessed according to the various (tactical, technical...) risks. The different likely solutions are also presented (off-the-shelf procurement, development, changes...), and linked to times and costs that take into account the different factors that size the environment (support organization and possible consequences on training or implementation in operations). The files are supplemented with a review of the coherence of the suggested solution in comparison with the capability model and the policy for equipment.

Of course, during this stage, the EMA (French Joint Staff) and the DGA are closely involved in order to guarantee the coherence in capabilities they are responsible for and to comply with the team spirit that is part of armament adaptation operations. This close link is all the more important as the financial consequences of this operation (P 146 or P 178) are reviewed at this stage, either regarding budget availability criteria or technical-operational criteria (any new piece of equipment comes under P 146 and any adaptation of a fielded piece of equipment under P 178).

Then, relying on these files, the MGAT may decide either to launch the achievement process or to ask EMA for urgent launching at its level.

Monitoring the achievement process in limited time

An integrated program team is set up to carry out the adaptation operation, following the example of an integrated program team on a contract basis. It is tasked to:

• draft the technological, technical and industrial answer;
• carry out the procurement and qualification processes;
• draft the concepts of employment;
• set up the support organization.

The officer in charge of the team reports to an authority appointed at EMAT or EMA level (according to the terms of his contract) and submits the main decisions to this authority at the major stages of the operation. The authority reports of the progress of the reactive adaptation function to the decision coordinating committee.

Conditions for success

To be totally useful to forces, distorting the reactive adaptation function - through either uncontrolled requirements or a lack of credibility, if the urgent aspect of the expected answer is lost - should be permanently avoided because of prevailing financial or program requirements outside of the Army. Therefore, the reactive adaptation team will have to scrutinize the fields of coherence in capabilities and of urgency before making proposals.

Therefore, the two major conditions for success consist on the one hand in avoiding to saturate the process while, on the other hand, looking for permanently setting into an anticipation - not only reactive but also as much as possible proactive - approach.

From this standpoint, carrying out technological watch and systematically sharing information among the various technological bodies is essential to preserve looked-for reactivity times when completing achievement processes for equipment. For this purpose, the Army should see to systematically include the DGA into its equipment adaptation studies.

In compensation for the permanent search for speed and efficiency, this new function must not generate new over-specifications. The teams in
charge will have to systematically check that required adaptations to new functions meeting emerging operational requirements are reasonable. Their credibility will be in balance. In addition, and as regards the requirements, they should be able to identify some margin enabling to carry out future adaptations: for example, reserves in weight and capabilities are essential when achieving any equipment, in particular major assets as lessons learn us that we rarely know the way an asset under development or improvement will eventually be used during its life-long duration.

Looking for a better synergy for personnel and organizations tasked with adaptation should enable EMAT to optimize steering, in particular in the sensible field of equipment which is in coherence with doctrine, education and training. On the other hand, the decrease in definition and decision times will guarantee a more effective and efficient adaptation. In this regard, a true “battle against time” is being started, which consists in never being satisfied with delays.

In the history of conflicts, reactive adaptation was always a major factor of success. It is now a strong obligation to decrease risks for our soldiers and to provide them with all necessary success tools. The new process that will enable to implement it is already set and will be in effect by the first semester 2008. It is a vital common effort for our armed forces to succeed.
Technology, An Essential Tool for Protecting the Force

The size of the forces being engaged in operations is always limited, in order to preserve their freedom of action and to let them concentrate their efforts on their mission it is thus necessary to reduce as much as possible the number of troops dedicated to protecting that force. The protection of a stationing force against any intrusions constitutes one of the facets of force protection.

In the past, the protection of a bivouac or a camp used to require either a lot of people or very simplistic types of systems (that piece of string across the road and linked to a bell) which, on the top of it, were of a non-discriminating type (anti personnel mine). That last point was a bit of a problem since units in the field were supposed to have enemies only in front of them. Today, the asymmetric types of conflicts conducted amongst the people as well as the rules of engagement that are implemented in situations of mastering of violence require that identification always precede action and that action should always be conducted in a very selective way.

These are the reasons why technology has now become indispensable to ensure force protection. I'll first use the SPECTRE system to demonstrate how technology allows to respond to an operational requirement, what are the limitation of that technology, as well as the issues to be by-passed: right level of response, relevance of the response, maintainability, simplicity, etc.

By Major Pierre Roinel "SPECTRE" Project Officer, STAT

SPECTRE, a system intended to protect stationing forces

SPECTRE program was developed following the international ban of anti personnel mines. The requirement was not to interdict any movement but rather any free movement within a given perimeter. That very important distinction comes from the growing imbrications of civilian populations within the forces’ areas of deployment. It is thus necessary to detect and then assess the threat in order to act only if it is required.

A demonstration prototype developed by THALES has been tested by DGA and the STAT in 2007. The system architecture relies on an association of various sensors (seismic, infrared, optronics linked to data processing system, radar, etc) linked to a monitoring and control station (PVC). Response devices (ranging from warning to temporarily neutralizing systems) are also scattered throughout the area. When any intrusion is reported to the PVC which first displays an alarm message; it may replay a video identification cycle and it lists the closest response devices available. The communication between sensors, PVCs and response devices is achieved thanks to a radio electrical network. And last, the structure includes a system with GPS, magnetic compass and identification chip that helps users to deploy the components in the field and to feed the PVC with the positions and orientations of all these devices.

The system includes a high level of technological elements that require advanced training, to such a point that its employment is planned to be split.
into two different levels: first a basic, low cost and easy to implement package, and second a more advanced package for specialists.

Thanks to such a high level of technology, that system offers unique protection capabilities, be it to protect a platoon bivouac for a few nights, or a battalion encampment for a few weeks. A single operator can detect and identify any intrusion within a unit’s zone of action.

Technology is one part of the response

Technology offers opportunities but it must however be controlled. It is permanently evolving whereas the rhythm at which armament procurement operations are conducted requires a certain level of stability over time in order to guarantee components’ maintenance. Technology is more sensitive to its environment (temperature, humidity, electromagnetic perturbation) than the piece of string linked to a jingle bell. Technology presents security shortfalls that are more subtle (introduction of viruses in the software, communication eavesdropping). It requires that operators acquire specific know how: technical individual training about implementation of the system, it also requires tactical organization measures.

All these items are not insurmountable, but they require to be taken into account early, as of the conception stage, i.e. as of the definition of a military requirement. Testing must thus be conducted prior to defining the initial reference requirement, in order to specify it precisely.

In addition, that technology should not induce a false feeling of security that would induce imprudent behaviors: one should keep in mind the example of the ABS that induced many accidents when its use became generalized on everyday cars; drivers used then to drive faster because they felt they were safer.

Technology brings one part of the response to a requirement however its efficiency has its own limitations and it depends on a correct use of it. The jammers’ example shows it well: technology must find its place in the field within an operational organization that is already in place. The response is thus technological and tactical; rules of employment must be developed. One last additional issue might also happen when the developers use technology not to respond to a requirement but rather to conceive a nice “high tech” machine. The role of the operational project officers is then to monitor the keeping of the right level of response which is crucial when human and financial resources are so scarce.

As a conclusion it could be said that the example of the SPECTRE program demonstrates that, in order to resolve the issue of protection against intrusions, the human resources’ weaknesses can only be compensated by technology. Once technology is well selected and mastered, and associated to sensible measures of tactical organization, it should provide yet unequalled levels of protection. It should also allow savings in personnel, a resource that is already scarce, and which will thus be able to leave the “back-office” and refocus on the “front-line”. Technology is not sufficient but it is necessary.
Cultural Integration at the Service of Force Protection

A Need that has Become a Requirement

It seems that the French military have always, sometimes unknowingly, practiced some sort of cultural integration in those foreign countries where they were serving. However, this is not entirely true. Our glorious predecessors - Gallieni and Lyautey - who have often been quoted, often partially quoted only, during these last few years, have been particularly innovative in that domain. Even more, they made that choice because they decided to choose the efficiency that they deemed to be necessary to develop and safeguard the Third Republic's conquests within a framework of extension of the colonies that could today be referred as being “hyper competitive”. They have successfully sought to “protect the force” that they were responsible for, as well as to preserve the local environment within which they were operating in order to safeguard the future. They have not always been followed.

If cultural integration process was selected and implemented precisely at that time when other possibilities of actions existed - especially mere coercion - it has today become indispensable since it is now the only sensible choice for democratic countries’ armed forces: cultural integration which is made easier by a sound understanding of the environment, participates thus directly to force protection by providing the military leader with means to reduce the level of violence during current conflicts.

That cultural integration is thus indispensable to protect oneself now, as well as in the future, i.e. safeguarding that future. In addition, and in order to be efficient, it requires the involvement of all although it is obvious that there is no miracle solution.

By Major Loïc Girard, EMSOME/BE²
Cultural integration as a key factor to master the environment

To protect oneself, the purely military means are not sufficient anymore. On the one hand, the implementation of the laws of armed conflicts, and, on the other hand, the current conflict asymmetry constrain the military action. Coercion, although it remains possible, is not anymore the universal rule, especially during stabilization phase. In order to be protected, the force must master its environment and get involved within the populations. The final desired effect is summarized by the well known motto “to win hearts and minds”, which came back again to life with the Iraqi conflict. Cultural integration then becomes a key element of that mastering process, thanks to intelligence that it renders more accessible, and also by bringing together know-how and know how to behave. The understanding of the environment must be as comprehensive as possible, focusing on the major issues that have an impact on the countries’ authorities as well as on the practical daily details. Knowing the other person, also means respecting that person and making oneself accepted by that person. This is the basis of all rules of behavior. This is the price to pay for the force to be protected... and the mission to be achieved! This is what Gallieni said, talking about Madagascar when he was designated to become its general administrator and commander in chief in 1896: “the colony was starting on the wrong footing not only because of the internal difficulties and dangers but mostly because we had incomplete or wrong notions about the country and its inhabitants, and that had generated initiatives that were distorted from the outset”.

In his writings, Gallieni quoted also, several times, examples of the right choices that were made in the field thanks to the leaders’ sound knowledge of the “indigenous habits”.

Being concerned by safeguarding the future is essential for force protection

Though force protection is an imperative concern for today, safeguarding the future is also essential in order not to jeopardize that force protection. Cultural integration plays here too a
key role. Knowing the other person, his habits, his way of life - and thus being able to predict his reactions - provides the military leader with decisive elements of appreciation. As an example, colonel de Saqui de Sannes, who was commanding the French battalion in Somalia in 1993, was confronted to a hostile action conducted by an entire tribe, including women and children. In spite of the threat, he selected to maintain a strict discipline of fire, later he explained: “it was a question of ethics, but I was also aware of the fact that the following day the operation was to continue and that the Aidid tribe would have never forgiven us if we had killed the women and children”. Although it is undeniable that cultural integration feeds situation understanding, the commander will however have to adopt a “behavioral education”, vis-à-vis his subordinates in order to promote that integration.

Cultural integration is first a commander’s business

There is no “miracle solution” to generate and promote that cultural integration. I will not insist on the French soldier’s theoretical humanistic prerequisite celebrated by some people as being the “French touch”, but which is however sometimes very much questioned in the field. That cultural integration is not innate and to use the famous Napoleon’s word, “inspiration is most often just reminiscence”. It is relevant for us all, collectively and individually and it requires anticipation and hard work. It is first a question of leadership. Before a deployment, each unit must promote that cultural integration. This is initially - however partially - the role given to the EMSOME which provides in-depth presentation of the theater and its environment. Although the provided information intends more to give a basic knowledge and more additional practical “keys”, it must however be expanded, given more details and focus. This is then the leadership’s role to involve all officers and NCOs to build on this basic knowledge to the benefit of the unit. Even if it might seem a bit funny in that time of high tech products -such as iPod and plasma screens - , entrusting a junior lieutenant with the creation of an information board about the future theater of operations to be displayed in the company’s main hall, is a trick that is very simple but always effective!

It is also a question of individual responsibility. At the best for personal interest or at least for professional ethics, a military leader should not engage himself into a mission without having improved his knowledge. The weight of local history and Islam, for instance in Afghanistan, seems to be an issue among others that has obviously to be studied more in depth.

Cultural integration is thus indispensable for force protection. It promotes adaptation or even integration in the field; it allows to reduce the level of violence or to maintain it at a lower level. Its direct contribution to protection is thus essential in the current conflicts as it has been during the previous ones.

That integration has however, at least one limit that must be kept in mind. The Frenchman who is always ready to fight for a cause and who involves his heart may unknowingly switch from the status of seduction to the fascination one. One should follow one’s heart but not forget one’s mind.
Post-Traumatic Stress Disorder in Operation

“Violence and horror in warfighting always entail, besides immediate mental disorders, a considerable number of later mental after-effects.”

Surgeon General (Médecin general) Crocq

As a “Technical degree/human sciences” student (DT/SH: diplôme technique/sciences humaines) at Toulouse le Mirail University (Master 2: research in psychopathology), I am currently specializing in the fascinating study of trauma psychology. This course perfectly fits my prospective position as a psychologist within the French Army psychological support cell (CISPAT: cellule d’intervention et de soutien psychologique de l’armée de terre), which I am to join in October 2008.

The purpose of this paper is thus to define psychological trauma, more commonly called post-traumatic stress disorder (“PTSD”). As this is an area comparatively wide in scope, I shall confine this paper within the military field of study. For that purpose, I shall start with a brief history of military psychiatry, and mention a few figures regarding psychological casualties during earlier conflicts so as to account for the importance of that field of activities. Then, relying on the statistical manual of the American Psychiatric Association (DSM IV R), I shall provide a list of the main symptoms of that disorder, as well as the possible effects on the professional and family life of military personnel suffering from it.

The purpose of this article is to convince the readers, especially those whose vocation is to command, that nobody is immune to developing post-traumatic stress disorder, and that after a potentially traumatic event, its development may be limited, or at least its chronic nature reduced, only thanks to early medical attendance.

By Major Laurent Tremblay, currently attending EMSST

“PTSDs” due to warfighting are a reality...

“Shell shock” (syndrome du vent du boulet = near-miss cannon-ball syndrome) was the name given by military surgeons serving at the time of Napoléon, such as Desgenettes, Larrey and Percy, to refer to the psychological disorder brought about by the clamor on the battlefield. But not until the early 20th century were warfighting psychological troubles really taken into consideration. Actually, the high number of psychological casualties during the Russian-Japanese war (1904 - 1905) encouraged Russian commanders to initiate the first psychiatric logistical chain and request reinforcement from French and German doctors. World War I enabled military psychiatrists to study the cases of numerous soldiers suspected of faking or simulating illness to avoid going back to the front. K. Abraham**, mobilized in 1914, set up a center for neurotic soldiers in Allenstein hospital.
This was soon crowded with numerous patients. He treated 90 neuroses and psychoses within one year. As for S. Ferenczi***, he was chief medical officer in a cavalry depot in the vicinity of Vienna. In the course of a conference in 1916 dealing with 200 cases of warfighting hysteria, he described the symptoms on the soldiers he examined. Some of them looked as if their legs had been paralyzed at the moment of fright. Other soldiers’ elbows had been locked into the prone shooting position. S. Freud, too old for warfighting, stayed in Vienna. During that time he wrote his essay *Thoughts for the Times on War and Death*.

We can remember General Patton slapping two GIs who were being evacuated for “exhaustion” in 1943, during Operation Husky in Sicily. It was this word (without any psychiatric connotation) that General Bradley requested to use to describe protracted extreme physical and psychological weariness. *Psychological casualties* of US armed forces during World War II amounted to 24 per thousand for each year of conflict, a little more than 250,000 soldiers.

A few years later, the Viet Nam war occurred. Between August 4th 1964 and January 31st 1973, close to 3 million GIs took part in the conflict. In 1994, 700,000 vets of that war were still under treatment for psychological disruption in the 196 “Vet-centers” opened for the occasion. A scientific paper written by French epidemiologist A. Jolly (2003) reports that 30% of men and 27% of women serving in Viet Nam showed symptoms of PTSD. Fifteen years later, 15% of men and 8.5% of women were still suffering from PTSD.

...and should be taken into consideration

This brief historical summary shows that *warfighting-caused psychological troubles are a reality and should be taken into consideration*. As has just been seen, the prevalence of PTSDs is very important, but statistics vary. Some estimate that PTSDs among soldiers engaged in high-intensity warfighting amount to 39%, whereas statistics for *Operation Desert Storm* suggest 8 to 9% prevalence. Be that as it may, figures are high in all cases, and since the disorder often lasts for several years and almost always appears together with additional psychological troubles (nervous breakdown, phobias, addictions) and with invalidating dysfunctions within family, social and professional environments, it is crucial that they should not be overlooked, and should be taken into consideration as soon as possible. For this reason, when the soldiers of a unit are exposed, directly or indirectly, whether as players or merely as witnesses of extreme situations which may entail death or severe wounds during a warfighting action, or of an accident or suicide, it is necessary that they should be examined by psychologists or psychiatrists so that the latter assess their condition, inform and advise them in order to *minimize the pathogenic effects of trauma*.

Their coming into play is decisive because this disorder is also characterized by a more or less lengthy period of latency, which is *unnoticeable from a clinical point of view*. However, an experienced clinician can detect some early warning signs through observation of behavior, and can act in order to neutralize the torpid development of this latency before it opens the way for a lasting pathological condition. After that phase of comparative quietness, the first symptoms occur. Those most frequently reported are recurrent and irrepressible memories or dreams of the event, which result in a feeling of distress; getting an impression, or behaving suddenly *as if* the event were going to recur; intense emotional and physiological responsiveness to hints calling the event to mind. The result is that the patient makes efforts in order to avoid anything that could remind him of the event. He may experience difficulties going to asleep, be irritable or have difficulties concentrating. Last, he may feel alienated among others, or find it difficult to feel tenderness for the people close to him.
** Born in Bremen (Germany), Karl Abraham (1877 - 1925) had a brilliant academic background, which enabled him to be appointed to a post at Burghölzli Mental Hospital in Switzerland, with the famous doctor Eugen Bleuler. It was there that he was initiated into the study of psychoanalysis by Carl Gustav Jung. He made the acquaintance of Freud in 1907, and became one of his most reliable collaborators and his close friend.

*** The career as a psychoanalyst of Hungarian Sandor Ferenczi (1873 - 1933) was complex, just like the man himself, who was brilliant and sensitive and was not above venturing on unexplored territory. He obtained his doctor’s degree in Vienna, and then became a neurologist before being officially appointed a psychiatrist at the royal court. Having settled in Budapest, he became acquainted with Freud thanks to a colleague in 1908.

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A psychic wound is not so glorious as a physical wound. Unfortunately it is **often regarded as a sign of weakness, or even cowardice**. Some military commanders think that their units are composed of elite soldiers who are psychically invulnerable. When they experience traumatic situations, soldiers tend to repress, keep quiet or conceal the symptoms. In order to make their psychological suffering less acute, some take refuge in alcohol or narcotics. Others have general practitioners, who have not been trained enough to treat that disease, prescribe to them anxiolytics or antidepressants which have little effect in this case. Experience and statistics show that these mental wounds are quite real and are not merely make-believe of fakers who chase pension money. Early recognition and treatment of PTSD will allow not only to limit the recurrence of that pathology, but also to reduce its **collateral damages** affecting family, social and professional relationships. It is therefore important to request help from a cell specialized in psychological support.
During summer 2006, within the framework of studies carried out prior to committing UNIFIL 2, the following article pertaining to conclusions from the Joint Forces Command’s Intelligence Directorate was issued in a Land operational headquarters’ note: “Thus, all French assets could be broken by both opposing forces, a specific factor leading undoubtedly to the commitment of a French force with an important armored protection”. Though this conclusion is questionable - which protection could be provided by the heaviest armored assets, if all committed forces have assets enabling them to break them? - this example, selected among many others enables us to underline the way we focus on protection despite all the other capabilities of the weapons system, and even at their expense. Broadly speaking, the issue of force protection tends to attract commanders’ and planners’ attention and thoughts as much as financial assets provided to improve forces’ operational capability. Thus, latent defects in some pieces of equipment, which were vainly mentioned at a time when these assets aimed to fight the Warsaw Pact’s firing power - are being suddenly corrected though they only have to fight the comparatively ridiculous guerrilla’s firepower in Afghanistan: a good example about it is provided to us by the remote-controlled cupola\(^1\) of wheeled armored fighting vehicles.

Is it justified to focus on this aspect? Is it not likely to hamper our military capabilities, like our allies’ ones? Are hazards encountered in new operation theaters higher than those expected in a major conflict in Central Europe? On the other hand, are the French forces getting “bunkerized”? After having continuously condemned the “Zero dead” doctrine, which balance could be found between a required protection and a renewed action capability?

First, protection can be considered as an unavoidable - though paradoxical - requirement, owing to the state of our societies but especially owing to the kind of conflicts in which we are getting committed. Then, we are going to show that focusing too much on this issue could lead but to an operational deadlock, at tactical and strategic levels. Eventually, we will come back to the most conventional principles, among which the fortification one, in order to draft a feasible balance between both contradictory requirements: a solution to this problem lies in the protection of action capabilities rather than in the protection of manpower, in the freedom of maneuver rather than in protection.

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**By Lieutenant Colonel Christophe de LAJUDIE, Operational Planning Division, Land Forces Command**
Increasingly focusing, paradoxically but inevitably

The fact that we are increasingly focusing on it is not questionable as the issue of casualties has become a priority factor in headquarters’ thoughts and in commanders’ concerns at all levels, while training and carrying out operations. We usually consider that these changes result from protracted peace in which our societies and our armed forces are. However, such an explanation is a paradox: historically, France happened to know such an inhibition in the past following the unprecedented slaughter of the First World War.

Legitimately, we could notice that casualties suffered by Western armed forces have never been so small since the advent of modern conflicts. Even when considering the Gulf War at its pitch, allied casualties were insignificant - in quantity or physically - if we compare them to casualties in past conflicts (and even more if we compare them to expected casualties, should an open war have broken up in Central Europe a few years earlier). As regards their actual meaning, we have to look into the moral effect of casualties. Indeed, it seems that our societies are increasingly sensitive - and it is the most common explanation: the average Frenchman as the average American would increasingly reject the concept of death, his own death as the death of other people. Therefore, a dozen of dead people today have a much more political-strategic importance than the about twenty thousand dead British soldiers on the very first day of the Somme offensive: from now on, there are “strategic KIAs” (Killed In Action) as well as “strategic Privates First Class” (PFC). This is the revenge from the obscure hero by Remarque, who died alone, forgotten, and for no reason at all, on a day as every day, when everything was so quiet that it was said in the bulletin: “All Quiet on the Western Front”.

Anyway, this is where the main asymmetrical factor for contemporary conflicts lies: in the confrontation between an overpowered but hypersensitive adversary and adversaries that are militarily quasi-powerless but ready to accept death and suffering to meet their ends. The terrorist method lies in the background of this asymmetrical situation.

Obviously, we are very much tempted to explain this attitude by a kind of individual and collective cowardice in well-off societies and their armed forces. This “cowardice”, systematically stigmatized by adversaries to whom obvious physical and moral courage cannot be denied, puts our servicemen/women into a position of moral weakness in front of their adversaries and public opinion. However, such an explanation is rather brief: in the past, it often appeared those new generations who had had an easy time and were considered as being unable to face the rigors of war by their predecessors, appeared to be able to face the direst situations in the face of adversity. In 1939, the new German generation provided us with an outstanding example on the Eastern front, though it had often been condemned in pre-war military reports as unable to put up with a protracted war, because they came from an “emollient” society.

Therefore, we have to look for an actual explanation elsewhere; and, in asymmetrical stakes rather than in asymmetrical behaviors. Indeed, our armed forces, as our allies’ ones, are currently committed in far-away conflicts, unlikely “side shows” with incomprehensible reasons - at least for the average citizen and the average soldier - often to carry out indefinable missions. Moreover, in front of adversaries who know exactly what they want, and who are ready to kill and to be killed to achieve their goals. Thus, many witnesses pointed out to armchair reviewers and to some upset “famous elders” that if French officers and soldiers had raised the white flag in Bosnia in 1995 - without having even endeavored to hold out against their aggressors - it was not - first of all - by weakness or cowardice but because no one had been able to give them the reasons - nor had been courageous enough to give them the order - to “get killed on the spot rather than to retreat”. Anyway, when stakes are indefinable, the mission is hazy, the C2 (Command and Control) organization is confused, orders quickly shift into a discussion basis: why should we die for Dantzig?

From now on, the moral effect of casualties is by far more important than their physical effect; likewise, the maneuver’s psychological effect is often more important than its physical effects in conventional warfare. Paradoxically, if we have to protect ourselves, this is not due to the fact that an adversary is powerful but because he is determined - though weak - whereas we are unavoidably pusillanimous. This hypersensitivity of our armed forces, of our opinions, and of our governments to relatively low casualties - due to asymmetrical stakes - results inevitably and thus legitimately into developing and implementing specific assets and procedures to protect our forces. It is a necessary evil.
However, if we do not care about it, focusing excessively on protection is likely to hamper our action capabilities, which is, by the way, exactly what the adversary is looking for.

**Toward an operational dead end**

This evolution is perceptible, even in the terms used to draft operational documents. Thus, shifting from an “enemy estimate” concept to a “threat assessment” concept is not neutral: it leads us to focus on the adversary’s nuisance capability towards our own forces rather than on its capability to achieve his own goals.

Indirectly, phasing out the adversary and replacing him with an impersonal concept deprives him of any physical and moral reality, therefore dissuading us in advance from carrying out any review of his will, his personality, his goals, and his COAs (Courses of action). KFOR’s plans to meet insurrectional situations - of the March 2004 kind - provide us with a very good example: in December 2005, the KFOR contingency plan only consisted of a purely defensive contingency commitment that could be summed up with a couple of mission terms: deploy and sustain the deployment. At that time, there was no overall review pertaining to the March 2004 “adversary”. From the moment when we refused to identify an adversary, it seemed indeed impossible to analyze a threat that seemed to result from spontaneous generation and that had neither time, nor location, will, and ground. From then on, a force neutralized itself, confined itself into purely static, defensive, and passive COAs, and condemned itself to suffer. However, a detailed review of all available reports and lessons learned should have shown that the adversary had a personality (commanders, “regular” and “auxiliary” troops), a materiality (territories and sectors, routes, logistic assets, etc...), strategic and tactical goals, clear “military” (and relatively foreseeable) COAs, and thus could have been the purpose of a conventional military assessment. From March 2004 to June 2006, over two years had indeed been necessary for minds to come out of this dead end.

Even if the concern for casualties and force protection was not directly in question, this example provides us with an illustration of the paralysis induced by asymmetry, a paralysis that can be but increased when an enemy is getting threatening more directly and casualties are increasing.

In current asymmetrical or insurrectional conflicts, the population is the terrain, the goal, and the political and military stake. The adversary is looking for controlling it by all possible means, terror included. To achieve this goal, he has to neutralize the opposite forces: creating insecurity through numerous small-scale actions is one of the most economical ways to achieve it. Focusing on force protection could happen to be counterproductive: it exactly means doing what is expected by an adversary, being subjected to his will. This trend can be seen in all theaters, as force protection is mainly carried out through the definitions of warning levels linked to constraints and restrictions pertaining to action and commitment. In short, the more insecurity increases, the less a force has contacts with the population, the less it controls the environment, the less it carries out its mission. On the other hand, financial, material, and human assets devoted to protection could play a prominent role in comparison with the assets actually devoted to the mission, which could become insufficient.

Eventually, focusing excessively on that point could lead to a moral inhibition: then, a force falls back on itself, in protected facilities, and it stops controlling the terrain. “We had not been taking refuge behind the Maginot line for ten years to get out of it on one fine day to attack the Siegfried line”.

Protection measures - passive or at least defensive by nature - could happen to be necessary to maintain the freedom of action. However, they are helpless to seize initiative and keep it. Therefore, the definition of assets that have to be devoted to it should be carefully considered in order to devote most assets to the very action. A right balance should be reached, and this as early as the operation’s planning stage, between purely and simply forgetting existing protection issues and permanently overestimating them.
About offensive fortification

To reach this balance, the first way to proceed will consist in applying the so-called “appropriate sufficiency” principle to force protection, a fashionable strategic nonsense that could happen to be applied there only, then taking part in the economy of force. We will precisely have to explain what is to be protected and why to determine the required assets and measures to the nearest penny; they should not jeopardize maneuver capabilities or go against mission requirements. Anyway, it seems that these requirements stand out very rapidly even to the most rigid armed forces: therefore, US forces in Afghanistan tested modular individual outfits and fielded them; and, if need be, they leave all their protection gears or part of them to be able to move on foot in the mountains.

A second way of thought is provided by fortification’s conventional rules. Indeed, it can be conceived according two logics contradictory to each other. Protection logic, i.e. linear continuous fortifications - often independent from the terrain - aiming to protect a territory from enemy operations: this is the logic of antique “walls” (the Great Wall of China, Hadrian’s Wall, Limes, fortified towns, etc.) but also the logic of the Morice line. In the other logic, fortifications are based on terrain’s strong points; they initially protected the gathering and the commitment of forces, they channeled the enemy, then they supported the maneuver by exploiting intervals: for example, Séré de Rivières’ fortified structure had been set up this way, as well as the Maginot Line, at least initially.

Fortifications are nothing if they do not support offensive reaction capabilities and if they do not take part in the economy of force. Likewise, MBT’s armor is nothing if it does not protect an engine, a running gear, and a weapons system. We do not develop armored vehicles and we do not send them into a theater for their crews to be covered but to increase their attack capability. In MBT’s history, the Merkava was the only one to have been developed with a very strong requirement for crew’s protection because Israeli citizen-soldiers had become a strategic raw material at the turn of the 80s.

In this regard, measures taken and assets devoted to protection will thus not aim to a quasi-complete protection of facilities and manpower. Their first aim will consist in shielding the core of forces’ structure from the most likely or dangerous attacks. Nevertheless, their main goal will consist in “setting standards very high” to an adversary, to compel him to carry out sophisticated operations to carry out his attacks, so that he provides us with targets for our own actions (channeling, and concentrating the enemy). They will also enable us to spare forces through increased technical measures, to give ourselves the freedom of action, and eventually to support the maneuver in order to regain initiative. In other words, we will have to support more than to protect, to carry out safety rather than security.

1 This is an old story as it dates back to the Algerian war, during which it had been often seen that armored crews were unable to use their on-board weapons because of a lack of protection. Read about it the following article issued on the TAKTIKA site, December 5, 2007: “Armored troops in counter-riots in Algeria” by LTC Claude Franc, CDEF/DEO.
2 This simplified typology is a mockery (in reality, both kinds of fortifications meet up in their design as in their use) but rather complies with common ideas: thus, it has a major influence on minds and easily leads to very different moral, strategic and tactical attitudes. We do not think the same way, when “concrete” is considered as a pure physical and defensive concept, or conversely as a maneuver and attack concept.
3 According to the conventional meaning, safety is defined as “the whole of measures enabling to avoid surprise and to provide commanders with the required freedom of action to conduct operations”. (Petit Larousse dictionary!)

To conclude, we are going to paraphrase a popular aphorism, by declaring that attacking is often the best protection. The only actual solution to the issue of force protection consists in shifting insecurity to the enemy. In many cases, focusing too much on protection issues only acknowledges that we are unable to win. Therefore, force protection should strictly be limited to its goal: creating the required freedom of action to regain initiative in order to win. However, military victory is not the ultimate goal and even less a solution to conflicts. However, it is still a required stage, and paradoxically even more in current asymmetrical conflicts, in which partial victories have no meaning, as military success can only be embodied through a complete victory on a military adversary, and his neutralization - a required condition for a return to security.
Introduction

This is the fifteenth edition of the Army’s capstone operations manual. Its lineage goes back to the first doctrine written for the new American Army, Baron von Steuben’s 1779 Regulations for the Order and Discipline of the Troops of the United States. Today, as with each previous version of Operations, FM 3-0 shapes all of Army doctrine, while influencing the Army’s organization, training, materiel, leadership and education, and Soldier concerns. But its contents are not truly capstone doctrine until Army forces internalize it. This requires education and individual study by all Army leaders, and it requires more: Army leaders must examine and debate the doctrine, measuring it against their experience and strategic, operational, and tactical realities. They must also recognize that while FM 3-0 can inform them of how to think about operations, it cannot provide a recipe for what to do on the battlefield.

Always dynamic, Army doctrine balances between the Army’s current capabilities and situation with its projected requirements for future operations. At the same time, Army doctrine forecasts the immediate future in terms of organizational, intellectual, and technological developments. This requirement is particularly challenging for this edition of FM 3-0. The Army is heavily committed in conflicts in Afghanistan and Iraq and to countering terrorism worldwide. How long this will remain the case remains unknown. Therefore, this edition promulgates doctrine for Army operations in those conflicts. However, America’s strategy requirements remain global. FM 3-0 does not focus exclusively on current operations, regardless of how pressing their requirements. The Army’s experience makes it clear that no one can accurately predict the nature, location, or duration of the next conflict. So this doctrine also addresses the needs of an Army responsible for deploying forces promptly at any time, in any environment, against any adversary. This is its expeditionary capability. Once deployed, the Army operates for extended periods across the spectrum of conflict, from stable peace through general war. This is its campaign capability.

This edition of FM 3-0 reflects Army thinking in a complex period of prolonged conflicts and opportunities. The doctrine recognizes that current conflicts defy solution by military means alone and that land power, while critical, is only part of each campaign. Successes in future conflicts will require the protracted application of all the instruments of national power—diplomatic, informational, military, and economies. Because of this, Army doctrine now equally weights tasks dealing with the population—stability or civil support—with those related to offensive and defensive operations. This parity is critical, it recognizes that 21st century conflict involves more than combat between armed opponents. While defeating the enemy with offensive and defensive operations, Army forces simultaneously shape the broader situation through no lethal actions to restore security and normalcy to the local populace.
Soldiers operate among populations, not adjacent to them or above them. They often face the enemy among non-combatants, with little to distinguish one from the other until combat erupts. Killing or capturing the enemy in proximity to non-combatants complicates land operations exponentially. **Winning battles and engagements is important but alone is not sufficient.** Shaping the civil situation is just as important to success. Informing the public and influencing specifies audiences is central to mission accomplishment. Within the context of current operations worldwide, stability operations are often as important as—or more important than—offensive and defensive operations. Department of Defense policy states: “**Stability operations are a core U.S. military mission that the Department of Defense shall be prepared to conduct and support. They shall be given priority comparable to combat operations and be explicitly addressed and integrated across all DOD activities inducing doctrine, organizations, training, education, exercises, materiel, leadership, personnel, facilities, and planning.**”

**Full Spectrum Operations**

**FM 3-0**

**Reseting the Capstone of Army Doctrine**

Today the United States remains a nation at war. This war is unlike any other in our history, representing a fundamental clash of ideologies and cultures that could span generations. We face an era of persistent conflict, with an intractable enemy intent on isolating the world from American power and influence—an extremist enemy of uncommon resolve fueled by unparalleled hatred for the rights and freedoms reflected in our democratic society. The enemy of today is patient, resourceful and committed to bringing terror to the American homeland. Ours is a complex and volatile world, where chaos is commonplace and hatred a basic tenet of the expanding societal abyss.

*By General William S. Wallace, Commander, TRADOC*
Globalization inherently ties our economy to countless others while the information revolution has eroded the protection once offered by our borders.

In the midst of this historic conflict, the Army has undertaken a historic transformation effort, reshaping itself into a decisive force with unique expeditionary and campaign capabilities. The Army has broken the mold of the traditional divisional army to forge a brigade-based force capable of prompt, sustained land operations against any opponent across the spectrum of conflict. At the heart of this transformation effort is a shift in doctrinal emphasis that captures the essence of more than six years of current operational experience that has characterized military service since 9/11. For the Army to remain agile and adaptive in this chaotic and uncertain era of persistent conflict, it is imperative that we capture and codify this experience within doctrine.

On February 28, 2008, Secretary of the Army Pete Geren and Army Chief of Staff Gen. George W. Casey Jr. are scheduled to announce the publication of Field Manual (FM) 3-0 Operations. The 15th edition of the Army’s capstone operations manual, FM 3-0 traces its lineage to Secretary of War Elihu Root’s 1905 Field Service Regulations. Baron von Steuben’s 1779 Regulations for the Order and Discipline of the Troops of the United States is its antecedent. Together with FM 1 The Army (released in 2005), FM 3-0 sets the capstone of Army doctrine.

Today, as with each previous version, FM 3-0 shapes all of Army doctrine, while influencing the Army’s organization, training, materiel, leadership and education, and soldier concerns. But its contents are not truly capstone doctrine until Army forces internalize it. This requires education, debate and individual study by all Army leaders, measuring it against strategic, operational and tactical realities. Much of this edition of FM 3-0 Operations represents an evolution of its predecessor, published in 2001. Many of the principles and fundamentals remain unchanged, while others reflect the collective wisdom gained from more than six years of recent operational experience. While elements of this doctrine may be evolutionary, its impact on the force and the application of the doctrine will be revolutionary.

For the first time since the 1982 edition, FM 3-0 is framed around a central operational concept -full spectrum operations-that represents the core of Army doctrine. In adopting an operational concept within capstone doctrine, the Army returned to a practice dating back to the 1976 edition of FM 100-5, which introduced the Active Defense as the central unifying concept for operational doctrine. In 1982 and 1986, subsequent editions of FM 100-5 established and refined the concept of AirLand Battle, the operational concept that focused the Cold War Army on a coherent theory of war for defeating Warsaw Pact aggression.

**Full Spectrum Operations**

Army forces combine offensive, defensive and stability or civil support operations simultaneously as part of an interdependent Joint force to seize, retain and exploit the initiative, accepting prudent risk to create opportunities to achieve decisive results.

They employ synchronized action-lethal and non-lethal-proportional to the mission and informed by a thorough understanding of all variables of the operational environment.

Mission command that conveys intent and an appreciation of all aspects of the situation guides the adaptive use of Army forces.

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**Other**
“Full spectrum operations” is more than just a concept that describes how commanders can apply unique combinations of offensive, defensive and stability or civil support tasks to solve complex operational problems. As an operational concept, full spectrum operations fundamentally redefines our basic notion of combat power, from how we generate it through the warfighting functions to how we apply it synergistically through combined arms operations. The operational concept drives initiative and emphasizes accepting prudent risk to create opportunities to achieve decisive results.

The manual Operations details how the concept applies to every Army operation across the spectrum of conflict. It explains how Army forces apply the operational concept in every conceivable situation, from stable peace to general war. It describes how Army forces adapt to the requirements of a fundamentally dynamic operational environment and how they conduct operations within that environment, combining Joint force capabilities, synchronized action and mission command.

Full spectrum operations focuses on the Army’s preeminent challenge: balancing expeditionary agility and responsiveness with the endurance and adaptability to carry any campaign to a decisive and successful conclusion, regardless of circumstances.

This edition of FM 3-0 reflects Army thinking in a complex era of persistent conflict, in which stability operations are as important as offensive and defensive operations—if not more so. Soldiers will consistently operate in and among the people of the world, conducting operations in an environment fundamentally human in character. In this environment, the efforts of the force focus primarily on the people. These efforts—stability tasks—improve their safety, security, social well-being and livelihood; they shape a “whole of government” approach that integrates the activities of a wide array of military and civilian participants; and they fulfill our legal and moral obligations according to the Hague and Geneva Conventions.
Toward this end, *FM 3-0 elevates stability operations to coequal status with the offense and defense*. While previous editions of *FM 3-0* focused on the warfighting capabilities of the Army, *Operations* acknowledges that secure, lasting peace is only achievable by combining the destructive capabilities inherent in offensive and defensive operations with the constructive capability innate to stability operations. Through unique combinations of offensive, defensive and stability operations, land forces establish the conditions that foster the success of the other instruments of national power and-through unified action-enable the processes that engender a stable peace.

Successfully **executing these stability tasks** also depends on influencing attitudes. The final success or failure of a stability operation often rests with the perceptions of the people. The actions of soldiers exert the most powerful influence on the people. Soldiers and leaders must **secure the trust and confidence of the population**, ensuring consistency in their actions and messages. They must **master information**. To the people, perception equals truth. Altering perceptions requires accurate, truthful information presented in a way that accounts for how people absorb and interpret information, molding the message for broad appeal and acceptance. This is the essence of **information engagement**.

As they always have, chaos, chance and friction dominate land operations, reflecting the increasing complexity of the operational environment. Understanding and knowledge are the commander's greatest weapons in this environment, where the **art of command**-drawing on vision gained from years of operational experience and education-is paramount to success. **This edition of FM 3-0 ties together battle command and operational art**, providing an integrated model for the creative application of the experience, knowledge and intuition of the commander in full spectrum operations.

*Operations* is underpinned by **understanding**, the expression of mental acumen by commanders (and their staffs) to define and frame complex operational problems and design operations that fundamentally reshape the conditions of the operational environment consistent with national interests and strategy.

It is the creative application of the agile mind that enables the commander to understand the broader context of a given situation through the lens of experience, knowledge, education, intelligence and intuition.

**Understanding, the cornerstone of battle command**, is essential to the commander's ability to leverage competent leadership into decisive action to accomplish the challenging, complex missions our soldiers face today. Understanding is the driving force behind the operational concept that frames our capstone doctrine; it provides the impetus to bridge the chasm between risk and opportunity. Understanding is the catalyst that fosters initiative, the seasoned expression of the agile mind. Ultimately, **understanding lies at the core of decisive action**.

As with all previous editions of the Army's capstone operations doctrine, this manual reflects the progress of the Army through history, yet serves as a **waypoint** in an era of persistent conflict. It emphasizes the lessons learned from combat experience and institutionalizes best practices from the field. It informs leaders and soldiers **how to think about operations**, rather than prescribing a checklist for execution. Ultimately, the success of Army operations depends on the determination of well-trained soldiers, the quality of their small-unit leadership and the abilities of their commanders.

The **Army's success** in fostering a culture of innovation is rooted in **the principles and fundamentals** inculcated through *FM 3-0*, building on an ethical foundation expressed through the **Soldier's Creed** and the **Army Values**. That foundation is underpinned by a capstone doctrine that institutionalizes the ideals of the Warrior Ethos, emphasizes the potential of expeditionary and campaign capability, promotes the traditions and lineage of the Army, and embraces a culture of change and adaptability. *FM 3-0* is reinforced by an understanding that adaptive leaders and well-trained soldiers are fundamental to realizing the broad potential of full spectrum operations. Those American soldiers, exemplifying the Army Values of loyalty, duty, respect, selfless service, honor, integrity and personal courage, remain the centerpiece of Army formations.
Within the pages of this edition of *FM 3-0* is a detailed description of how the Army of today is preparing to confront the challenges of the future while sustaining ongoing operations and maintaining readiness to meet current threats. It addresses how the Army is developing policies, doctrine, training and behavior to forge a culture that embraces the operational and organizational challenges endemic of a turbulent, chaotic and uncertain operational environment. *FM 3-0 represents the Army’s blueprint for an uncertain future.*