

FRENCH OPS
LESSONS FROM MILITARY OPERATIONS IN
INDOCHINA AND ALGERIA

Since the first atomic bomb was exploded 20 years ago a great deal of speculation has been going on throughout the world on the fundamental change in tactics that the use of this tremendous weapon would bring in any future war.

New tactics, new rules for deployment and movement of troops have been developed and are now being taught in all staff colleges of the World.

This is the theory - the practice has always been different and all the innumerable wars that took place during these 20 years have been subversive wars.

As there is not much hope of seeing this type of war come to an end in the foreseeable future. I would like to analyse with you the experience we had in Indochina and Algeria.

INDOCHINA

The Indochinese war lasted 9 years from 1945 to 1954.

Indochina is in fact a set of 4 different states:

North Vietnam (13 million people)

South Vietnam (12 million people)

LAOS (1½ million people)

CAMBODIA (4 million people)

The distance from North to South is 1,000 miles, 50% of the area is jungle, 35% is bush or open forest and 15% is rice fields.

The only rich and populated areas are the deltas of Red River in the North and Mekong in the South and it has to be pointed out that the North delta has a vital need of the surplus rice of the South.

The normal road network is very poor particularly in the deltas because the mud is not strong enough to bear a pavement and the rivers are still the main means of communication in the country, with footpaths as a secondary means.

A railway line completed in 1939 links LANGSON on the China border to SAIGON (1,200 miles) and Hanoi to Haiphong (65 miles).

Humidity is 100% all the year round and the monsoon gives 70 to 100 inches of rain from April to September. It is as you know a very bad climate for the European.

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I am going now to review the different phases of the Indochina War in order to point out the lessons which we have learned of it.

I don't know if you remember but Indochina has been split into two occupation zones by the POTSDAM Conference.

In September 1945 the French took over from the British in South Vietnam and in June 1946 the Chinese agreed to evacuate North Vietnam.

Some months later in December 1946 - the Nationalist party called Vietminh headed by HO CHI MINH made a "coup de force" in Hanoi and after killing 500 French civilians took to the hills - there was at this time no national army or civil servants and we had to pacify as quickly as possible.

In the South it was a pretty long job but finally we succeeded, the main Vietminh resistances being:

The Saigon underground organization with killer gangs and bomb thrower teams.

The "Plain of Reeds" a very extensive swamp along the Mikong - during 6 years we combed this swamp again and again and finally very few red spots were still alive.

In the North the situation was quite different because the Vietminh had strong bases in the mountains and we had to control the Chinese border through which weapons were infiltrated.

For our misfortune CHINA became a communist country in September 1949 and the first victim was the frontier line - our 4 battalions spread along the border were attacked at the beginning of 1950 by 14 Vietminh battalions and their withdrawal was a disaster - all our posts had to be given up from Laokay to Mankai.

To keep the delta safe General de Lattre reorganized the French Forces in order to have in reserve -

5 mobile groups each including 3 battalions

2 armoured groups each of

1 M24 tank company and

2 mechanized infantry companies mounted in $\frac{1}{2}$ track

2 navy assault groups of 12 landing crafts each making a total of about 30,000 men.

In the meantime the number of Vietnamese Commandos were increased to harass Vietminh with anti-guerrilla forces. It was also decided to hasten the building up of a Vietnamese Army.

In January 1951 the Vietminh attacked the delta with 5 divisions (about 60,000 men) helped by 150,000 porters. After 2 weeks of tough fights the delta was saved and the Vietminh suffered terrible losses which were estimated to more than 20,000 killed.

In October 1952 having recovered they launched their second large scale offensive with 3 divisions and 1 independent regiment to conquer the Thai Country. Our posts along the Red River were completely surprised and to save the withdrawing posts the French command had to drop airborne battalions. After different operations the Laos was saved and the Vietminh withdrew.

The last phase was marked by a permanent Vietminh threat against Laos with large scale airborne operations to contain their offensive. The last battle is well known "Dien Bien Phu" 16,000 French including chiefly Foreign Legion and Paratroops against 50,000 Vietminh. After 4 months of continuous struggle the garrison was submerged under human wave attacks launched mainly by night from short distance supported by heavy mortar fire. Only 76 men escaped to the hills.

After that in 1954 the Geneva Conference reached an agreement on 2 partition basis.

There are hundreds of lessons to be learned from the Indochina War but the most important certainly is to understand why the general tactics applied in the South failed in the North?

When the war started our forces were dispatched into posts of company size to keep open our lines of communications and occupy points of vital importance such as bridges, main villages and so on.

Each Regiment or Battalion had an area of responsibility and many towers (held by a platoon) were built along the main roads or on the tactical features to increase the efficiency of the "quadrillage."

A very few units mainly armored units were held in reserve to escort convoys protect the attacked posts and take part in operations.

This organization had a good result in the South but in the North our posts started to be attacked at the end of 1948 and in 1950 there was no question of keeping towers of section size - why?

It is very simple. In the North the guerrilla forces had reached at the end of 1948 the strength of Company and Battalion-size and the "quadrillage" could no longer be effective without being backed by strong mobile forces. These forces were only organized in 1950 by General de Lattre and it was too late.

There is no doubt that at a certain stage the use of units of regimental size spending most of their time in fixed positions is the best way to give guerrillas the ability to move in a large area without being detached and intercepted.

On the other hand border protection is essential to cut off the rebellion from outside and prevent all supplies but as I told you in 1949 we lost our posts on the Chinese border and all the area including that between the china frontier and the delta was in fact Vietminh.

Another characteristic of the Indochina War has been the lack of information on Vietminh movements inside the delta which has enabled them to keep always the surprise effect and the local superiority. In the first days of the rebellion the Vietminh sent into each village

political commissars to keep a grip on the population and the formula they employed was very simple: "Ruthless management of people." By that we mean the Vietminh were living among the people as "fishes live under water" and they were obtaining plenty of information about our installations and movements as well as food, shelter and hiding places. Civic action must be a characteristic feature of a subversive war and psychological operations are of prime importance. We must not neglect to win the hearts and minds of the population.

It was unfortunately an important factor which was absolutely forgotten in Indochina.

Many journalists also said that we were impeded by cumbersome and inadequate equipment. I don't believe it. The French and Vietminh battalions had a very similar organization with mortars, MG and recoilless guns. It was the tactics which were quite different because we always had the tendency to fight a conventional battle with the necessity to stop at night. We must keep in mind that guerrilla tactics are unconventional:

In the offensive they select targets, concentrate sufficient strength to ensure success of the operation and withdraw before we can react with a sufficient force.

In the defensive with the support of population they receive early warnings which enable them to slip away in small groups.

In addition the guerrilla is light and travels fast. He makes an ally of darkness and always turns terrain to his advantage.

Therefore our soldier must be perfectly accustomed to night fighting and be able to live several weeks away from his permanent base. In the

field of employment of air forces, air support has been proved to be essential in close support of ground forces but air reconnaissance gave very deceptive results.

A large use has been made of transport aircraft to give the maximum mobility to our forces according to the enemy threats.

I may say to conclude that this war was primarily an infantry war and the European soldier had more to learn from the local soldier than vice-versa.

ALGERIA

The Indochina war was just over when on 1st November 1954 the Algerian War started. It lasted nearly eight years (to the cease fire agreement on 19th March 1962) and involved at one time 500,000 French soldiers.

Algeria located between Morocco and Tunisia is also an immense country (600 miles from East to West and 1,200 miles from North to South), including many types of terrain from the pleasant shore of the Mediterranean Sea to the infinite horizons of the desert. A large proportion is mountainous particularly in the East.

The population of Algeria is about 9 million people of which 1 million were Europeans. The Moslems are split in two main groups Arabs and Berbers.

There is, contrary to what you find in Indochina, a good road network throughout the country developed during the 130 years of French colonization.

Inside Algeria the FLN Forces were at the beginning about 30,000 men split into parties from company to platoon size. They were a bit short

of armament and ammunitions but they were very well trained, highly mobile and knew perfectly the country.

Outside the country the FLN had 2 large armies organized on the same type as the French Army. They were about 30,000 in Tunisia and 10,000 in Morocco. They were helped to the utmost by the Governments of Tunisia and Morocco and had good infantry weapons including GPMG, bazookas and recoilless guns.

Against this force the French Army consisted as I told you at its strongest of some 500,000 men including 44 "Regiments" of armor and ten battalions of Foreign Legion.

The FLN realized very quickly that they had no chance in attacking our Garrisons or strong points and their favorite tactics were to ambush our patrols or convoys particularly on difficult roads. Their attacks took place most of the time late in the afternoon in order to take advantage of the darkness for their withdrawal.

On the other hand to keep population under control they perpetrated the vilest atrocities and many people including women and children were horribly mutilated. I think you heard about MELOUZA in May 1957 where all the males of the village, exactly 301 including boys, were butchered just because the village was accused of having given some food to a French patrol.

In the light of the experience gained in Indochina, Algeria was divided into 60 sections which in addition to the troops of the "quadrillage" had always got mobile units held in readiness. The units of the "quadrillage" were expanding vigorously by day and night in the countryside and the

result was that the enemy lost little by little his mobility and his capacity for assembling without being detected. In fact this organization gave to our forces considerable ambush capabilities which was increased in 1959 by the creation in each sector of special anti-guerrilla commandos.

Those special units were built around an existing troop or company. Their structure had nothing unusual: 1 HQ platoon and 3 rifle platoons but the men all volunteers, all were physically and mentally selected. In addition each commando included a good proportion of local recruits having a perfect knowledge of the country. They had only light armament with a high proportion of sub MG and long range radio sets. They lived exactly like the FLN normally moving by night to remain undetected. They made a fine job in conjunction with the heliborne troops which were dropped on the likely lines of withdrawal when a guerrilla concentration had been located.

This tactic was very successful and the demand on light armored units for escorting convoys decreased rapidly, consequently little by little units of the armor were involved in a pacification role. Our mobility and fire power gave us advantage for patrolling and quick intervention but I must say that we were very often short of Infantry men but we could always make use of the APC troops. I personally think that at a certain stage when the situation is developing well inter arms units would be more useful because I knew many infantry units complained about the lack of armored vehicles.

I told you that 2 large FLN armies were stationed outside ALGERIA and in order not to make the same mistake as in INDOCHINA we have to intercept very quickly all supplies from outside.

In 1957 it was estimated by our intelligence that 1,500 men and 1,000 weapons a month were crossing the barrage. It was quite impossible to control 1,000 kms of border with troops only and in 1957 it was decided to build an electric barrier along the border. This "barrage" consisted of 3 lines of high tension fencing 6 to 8 feet high - mines were laid between every line of wire.

It was a considerable work and the East barrage with 500 kms length was achieved by 5 engineer battalions in only 5 months to give you an idea:

more than 1,500 T of barbed wire were unrolled

300,000 poles were put in

30 square kms were leveled by bulldozers

54 electric stations were constructed

200 kms of blacktopped road were built

180 kms of trails were built

This barrier was continually watched and checked by small patrols of Armor equipped with searchlights, observation planes, infantry radars and artillery OP's. We used 6 "Regiments" of the Armor on the East barrage and 5 on the West barrage.

In the rear area we had a tactical layout consisting of the posts themselves and intervention units and artillery fire could be applied on call all along the barrage.

The organization was able to get through but we know that no barrier is really impassable, therefore our tactics were:

to stop minor enemy attempts on the barrage itself with our light armored units and artillery fire.

to canalize major crossings in order to start an immediate mopping up operation with our mobile reserves as close to the barrage as possible.

Naturally all the crossings took place at night but these tactics gave good results.

To give you an idea in the night of 28th April 1958 about 1,000 FLN soldiers passed through the barrage. After 24 hours of hard fighting the final result was:

on our side: 100 killed or wounded

on the enemy side: 600 killed and 300 captured most of them wounded.

Another important factor was the requirement to exploit information as quickly as possible and whenever possible before night. In Indochina we had realized how useful helicopters could be but we had just a few and we missed them very much.

In Algeria it was different, we used about 600 helicopters to increase the mobility of our troops. Half of them were transport helicopters H34 and H21, the other half liaison helicopters. We found that the most convenient size for a helicopter unit in small operations was 8 to 10 aircraft. The basic unit called D.I.H. (Intervention Helicopter Detachment).

Each detachment included:

A flying command post - generally an Alouette II

An armed helicopter to provide close support when landing. It was a H34 equipped with a 50 caliber MG or a 20mm gun. I must say that this cannon was much in favor and gave better results.

A transportation group including 6 to 8 helicopters.

A light observation plane called "Broussard."

Sometimes a logistic helicopter (Alouette II)

The armed helicopter provided a reliable but minimum fire support near the landing zone to neutralize ground fire but very often fighters and even bombers were asked to sterilize the landing zone and neutralize enemy strong points.

The transportation group with its 8 helicopters could lift half a company in one go which was considered enough to deal with an enemy pending the arrival of the rest of the company. Every helicopter was equipped with a H.F. set working to the ground forces and VHF set working to the other helicopters and the aviation.

To keep the benefit of surprise and not to lose our speed of reaction we found that the best compromise was to choose the embarking area between 15 and 30 kms from objective. Thus only one DIH (Helicopter detachment) with a potential of 90 minutes could transport 3 companies without stopping the engines.

Helicopters were particularly useful in so called "sealing up" operations. When enemy had been located the aim was to surround him fast enough to prevent any element from escaping.

The key points on the high ground were reached by helicopters while other units were going to their destination carried on lorries. Reconnaissance units were also particularly suitable as regards their speed mobility and fire power.

It would happen that a gap would develop between 2 units, therefore a airmobile reserve was always kept in readiness to be rushed into such a gap as soon as the flying CP had noticed its existence.

Of course the conditions in Algeria were particularly suitable for helicopter operations because:

there was no air threat

the enemy had few AA weapons

the weather was pretty good 10 months out of 12

This explains why in 1959 for example when our helicopters flew 100,000 kms only 35 of them were hit, only 6 members of the crews were wounded and none at all were killed.

Generally one helicopter detachment was stationed in a zone divisional area of responsibility including several sectors for many months and so the crews as well as the ground units were quite well aware of their respective capabilities and limitations.

The last point I would like to develop is the vital necessity to combine the mobile striking force with psychological actions.

It is obvious that guerrilla cannot live without the good will and the support of the population, therefore, the fundamental aim must be the separation of the guerrillas from the population.

The psychological actions are infinite and I will only summarize the most important ones which were applied successfully in Algeria.

The first step is certainly keeping the population informed. The aim is to give publicity of military operations in order to undermine the guerrilla confidence in victory and to encourage active participation of the population against terrorists. For this purpose we had in every sector special teams including a doctor, French and Moslem nurses and Moslem speakers which were giving in all the villages public speeches,

medical support to the population and hygiene. The talks given by insurgent who had changed their mind were also of excellent effect.

The second step is to have a close control of the population. Therefore in each sector we issued a new identity card and we built up an accurate census of male population for every village. Periodic checks mostly by night enable the detection of uncontrolled elements. Resettlement and regroupment of population were also made but planning of the programme has to be done very carefully and in detail. In my opinion it costs a lot of money and automatically leaves the empty zone to the guerrilla.

The third step is to get the people to protect themselves. It is certainly the most difficult step and it is useless to try till the political agents responsible for the village have been eliminated. We had therefore in each sector an intelligence section which used to the utmost insurgents who have changed their mind for interrogation of captured persons. We found they were very useful for the detection of political agents and hiding places. Thus in 1960 we had about 2,000 self protected villages. In addition to protecting their communities the civil guard furnished intelligence and security to our forces.

To educate population at the village level we drew the best men to attend a general orientation course on civic action. Their task was to advise, influence, indoctrinate and strengthen the political apparatus but the end of the war in Algeria gave us not enough time to draw accurate conclusions.

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To conclude I only want to say that from the military point of view the Algeria war could have been won because if in 1957 we had many guerrilla units of company size, in 1961 only small groups of 10 men could still be found and all the official letters we seized emphasized the bad morale of guerrillas.

The guerrilla tactics are certainly unorthodox but they are based on unalterable principles:-

The swiftness and secrecy of operations conducted mostly by night. Therefore our soldier must remain light and be specialized in night fighting.

Another characteristic is the enthusiasm and fanaticism of guerrillas. It is essential that our local soldier must not be forgotten.

At last to live the guerrillas need the support of the population and we have to convince people that support of guerrillas is unwise.

FRENCH ARMOR IN INDOCHINA

(1945 - 1954)

In October 1945, the units of the French Expeditionary Force landed again in Indochina, with the objective of rapidly reoccupying the country. Lieutenant General LECLERC, who was in command, had been the commanding general of the 2d French Armored Division in 1944-45. He employed the few armored vehicles he had in the same classic way as he had previously done in France and Germany. On February 5, 1946, all of southern Indochina was reoccupied. Then, after the agreements with the Viet-Minh (March 6, 1946), the French units landed in the north and rapidly seized control of the Tonkin Delta.

Those first easy successes in a country where no armored vehicle had ever moved before¹, had created a misleading atmosphere of safety. That was quickly confirmed when the hostilities were resumed by the Viet Minh forces after December 19, 1946. Road-bound, almost everyday in regular convoy escorts, Armor units suffered several serious misfortunes. With Marshal de Lattre in 1950 and the creation of Armored groups and Amphibious groups, French Armor step-by-step recovered a suitable role.

It seems interesting to cover this evolution, from the classic factors of the problem: terrain, means, enemy, missions to the organization and tactics known at the end of that 9-year campaign.

¹Prior to the Japanese occupation, however, a platoon of old obsolete Renault-FT tanks, previously used during WWI, was stationed in Hanoi.

TERRAIN:

In Indochina, where one finds swamps and jungles, cultivated plains and forest-covered plateaus, open hills, and rocky mountains, a large part of the country could not be crossed by any vehicle. Roads and trails, poorly maintained during the war, had been sabotaged by the Viet-Minh, rains made them slippery and often un-trafficable during the 6-month monsoon season. The bridges still intact were not suitable for wide, heavily armored vehicles. (For crossing the Red River in Hanoi, tanks and half tracks had to be loaded on flat cars rolling on the railroad of the Doumer Bridge.)

Nevertheless, with stubborn energy, Armor leaders strived to find best secondary roads and cross-country possibilities. Routes, crossing points, and trafficable areas were put into files in every sector according to seasonal variations. At the price of much weariness and effort, the different armored units were able to find again the necessary area for maneuver, even bringing the fight across flooded rice fields or swamps, according to vehicles employed. Soon, only rugged jungle areas remained impenetrable.

MATERIALS:

French armor had landed in 1945 with US vehicles used during World War II (Armored Car M8, Scout Car M3, Half Track M3, Light Tank M5, Howitzer M8); some other armor "régiments" were equipped with British vehicles (Armored Car Coventry and Scout Car Number) or even with out-of-date French armored cars (Panhard 1939). Their qualities and defects are well known, but French industries destroyed during the War were still unable to provide better. These vehicles were very useful for all the missions dealing with road security and even intervention.

As early as 1948, French armor, looking eagerly for crosscountry mobility, organized its first amphibious units and tested them in the Plain of Reeds (Mekong Delta). The new materials, Cargo Carrier M99C (nicknamed "Crab") and LVT 4 or 4A (so called "Alligator") were not designed for such an intensive use in muddy areas; the first one was a US cargo vehicle, without armor, to be employed in icy Alaska; the second was an armored personnel carrier used for ship-to-shore landings in the Pacific during World War II. The first results were disappointing, but quickly the leaders found suitable tactics and the crews became skillful technicians, while the vehicles received more suitable weapons and armored vehicles for gunners (on the LVT's were mounted two caliber .50 and two caliber .30 machineguns and even sometimes an automatic BOFORS 40-mm gun).

The possibilities presented by the dense network of rivers and canals, pointed toward the use of river boats. The French Navy organized early in 1945 its "DINASSAUT," composed with LCI, LCM, and LCVT,² French armor embarked on lighter boats able to go upstream in narrow and shallow "rachs" at the pursuit of enemy sampans. These boats ran up to 8 meters or 10 meters long; proceeding at 10 knots, and equipped with three machineguns and a grenade launcher, these armored motor boats were operated by five crewmen.

The first M5 tanks were replaced in 1950-51 by M24 light tanks, US built also; their low ground pressure (less than 10 P.S.I.) was

² DINASSAUT - Division Navale d'Assaut ~~Division~~.
LCI, LCM, LCVP: US Navy designations for small landing vessels.

the most appreciated characteristic. Light, fast, reliable, well equipped, this tank could be driven everywhere during the dry season and used even across flooded rice fields. It was also air transportable in separate component loads for lack of airfield and aircraft of sufficient size (i.e., 82 loads airlifted by two Bristol and three C-47 airplanes) so that a company with ten M24 tanks was air transported and rebuilt in Dien Bien Phu, and also a platoon with five M24 tanks in Luang-Prabang (Laos).

At last, it must be noticed the creation of one regiment equipped with heavy M36 tank destroyers able to counteract eventually the threat of Chinese Communist armor in 1952. Also to prevent that threat in 1951, Marshal de Lattre had ordered the construction of a fortified line around the Tonkin Delta. In fact, these tank destroyers equipped with a 90-mm gun and broad tracks were used for supporting infantry units.

ENEMY:

From the very beginning, the Viet Minh adjusted their antitank tactics to oppose French armored units. Among employed devices, mines were largely placed ahead with 85 percent of damaged or destroyed armored vehicles. Their variety was immense, from the unexploded and locally recovered aircraft-bomb to the China-built antitank mine; generally the enemy manually detonated them when armored vehicles passed. Fortunately the tank hulls often resisted the blast, and after some time, the maintenance mechanics were able to repair damage.

Acting as guerrillas, the Viet Minh could not burden its units

with a too heavy antitank armament without taking the risk of a reduced mobility for its battalions. Its portable antitank weapons (75-mm and 57-mm recoilless rifle - S.K.Z.³ - Bazooka) can be credited for a low percentage of destroyed armored vehicles; in fact, often destroyed, after immobilization, by a direct assault led by Viet Minh soldiers carrying explosives, charges or "Moltov Cocktails."

The Viet Minh, requisitioning local civilian manpower, built vehicle obstacles on all routes--ditches, walls, barricades, etc., often combined with mines or boobytraps. In Tonkin, for example, many villages were encircled with a 6-foot high earth wall; and sometimes the access across rice fields was forbidden by actual antitank ditches running on several hundred meters. Despite the willingness and stamina of the leaders it was often very difficult to pass through, and, only after excessive and time-wasting efforts. (French armor had no tank-dozers and no mobile bridging equipment, such as armored vehicle launching bridge.)

The Viet Minh tactics, dealing with antitank defense, mainly laid on ambushes, always with similar planning: to stop the convoy in a narrow or rugged passage, then, after an intensive and violent fire support, to launch a quick assault. The best parry obviously consisted of thwarting this ambush, which was difficult to succeed with such a master in concealment as this enemy. Every leader of a surprised unit also had orders for keeping his mobility, at any price. An armored vehicle stopped and isolated in an ambush is a blind and

³S.K.Z. "Sung Khong Giat" (Viet Minh recoilless gun).

harmless prey easy to destroy for a daring enemy. Unfortunately, the indispensable and regular missions imposed on armor units did not always allow them to counteract the Viet Minh assaults nor avoid bloody misfortunes (convoy of DALAT March 1, 1948).

MISSIONS:

After the rapid reoccupation of Indochina by mobile columns exploiting along roads, it was necessary to understand that the struggle extended all over the country, often far from the roads; however, those communication lines remained vital for liaisons and supplies, with the lack of airfield facilities and a sufficient number of aircraft.

Therefore, French armor had to assume the protection of roads, rivers, and even, railroads. On roads, the integrity of the route had to be checked before the daily or periodical traffic of vehicles or convoys; then it was responsible for the traffic security while patrolling or escorting convoys themselves.

The mission was similar on rivers, especially on the Saigon River, from the port down to the sea. On all important rivers, armored motor boats were employed either in separate platoons (6 boats) or in separate troops (3 platoons) and they were quickly driven up to the smallest tributaries.

On railroads, the main bridges were under the protection of small posts, French armor had to provide crews for armored trains escorting the "Rafales" (wind blast) composed of two or three trains, following each other, once a week, on the different sections from Saigon to Nha Trang, from Tourane to Hue and Dong Ha, and from Hai-Phong to Hanoi.

Besides that essential mission, armored units were called for interventions, as fire brigades running toward a blazing fire, by day and by night, to help attacked posts or units pinned down in an ambush, the armored platoons started to remove their harassed friends. Such interventions became more and more hazardous because of the Viet Minh who were aware of these reactions and provoked them attacking far posts in order to ambush intervening platoons.

Infantry battalions also requested armor support against an enemy who was becoming better trained, and a very close cooperation between Infantry and Armor became the rule; but dispersion of units along roads, lack of strength and poor crosscountry mobility of wheeled vehicles restricted the benefit of such combined operations. Moving at the same speed as foot infantrymen, or assuming monotonous "bouclages" (blocking lines), armored units consumed their potential without any real benefit.

**EVOLUTION OF
ORGANIZATION:**

The first "armored groups" (sous groupements blindés or GB) were organized only in 1951, with their own attached infantry. Under the command of a small armored HQ, these armored groups included one company of M24 tanks (4 sections, with 3 tanks and 2 half tracks) and two mechanized infantry companies on half tracks. The effectiveness of that formula was rapidly confirmed during the operations of Hoa Binh (Nov 1951 - Feb 1952) and Phu-To (Oct - Nov 1952).

Simultaneously were created "Reconnaissance Groups" (groupes d' Escadrons de Reconnaissance or G. E. R.) composed of one M24 tank

company, one armored car troop (3 platoons, with 5 M8 armored cars and 1 platoon with 3 M8 howitzer) and one or two companies of "suppletifs" (indigenous forces).

It is essential to avoid any confusion between those units pertaining to armor and the mobile groups (groupements mobiles^e or G.M.) which were created at the same period and were composed of three infantry battalions (mounted on tracks), supported by one towed artillery group (105-mm) and one platoon of three M24 tanks (seldom by one tank company, such as the GM 100, for example.)

At the same time amphibious units were employed to a greater extent.⁴ Two groups, each composed of two companies of "crabs" were created, soon reinforced by two "alligators" platoons carrying one company of "suppletifs" and able to operate where the "crabs" were stopped by the impenetrable terrain or the enemy fire. They were intensively and successfully employed in the Plain of Reeds and in the area around Nam Dinh (Tonkin).

The organization of these armored and amphibious groups allowed French armor to regain its own momentum. However, very often it was still necessary to attach an infantry battalion to those units, because of the proportion of personnel that did not permit enough dismounted soldiers to search villages. In fact, it was impossible to request more officers and enlisted men from armor. By this time under the impulse of Marshal de Lattre, the young Vietnamese, Laotian and Cambodian armies had begun their build up. French armor which used

many locally enlisted crewmen since 1948 (often, more than 50 percent) had not only to train the first armored Vietnamese troops (and the Laotian and Cambodian troops) but to create one infantry battalion for the national armies from each of its "régiments." At the end of 1948, after that crisis of personnel and the first lessons of these experiments, the following structures were adopted:

1. Armored Group, which is composed mainly of one M24 tank company (4 platoons with 4 tanks) and three companies of truck-mounted infantry (4 platoons plus one support platoon). This group also had one mechanized infantry company (4 platoons with 4 half tracks) and one 81-mm mortar platoon, mounted on half tracks. This unit was under the command of a HQ well provided with communications means and able to control several attached units.

2. Amphibious Group, with an amphibious mobile HQ, which included two HQ for subgroups permitting the "tailoring" of the following units:

- 2 "crab" companies (each with 33 crabs and 3 platoons).
- 3 "alligator" troops (each with 11 LVT's, 3 of them with 75-mm howitzers, and carrying 3 infantry platoons).
- 1 regimental support platoon with six 75-mm howitzer LVT's.

At the end of that evolution, French Armor recovered armored units able to engage by themselves the enemy with effectiveness. The Viet Minh had many bitter experiences (Camargue, Mouette, Gerfaut, Auvergne operations), and on July 20, 1954, at the cease fire time there were four armored groups and two amphibious groups (plus three G.E.R. and six other armored "régiments.")

**TACTICAL
EMPLOYMENT:**

Split between the necessity of supporting infantry and the desire of its own maneuver with all its means concentrated in a strike force, French Armor, after 9 years on the battlefields, was able to reach some particular tactical conclusions.

If a tank platoon could be temporarily attached to some infantry units, the troop was only able to have the necessary firepower and mobility to lead the fight at its own momentum facing a battalion strength enemy. The indispensable flexibility for maneuver was easier with the quaternary articulation within the unit⁵; and the changing of combat formations was often achieved in direct sight without any problems of communication between these well-trained crews.

The best infantry-armor balance has been revealed to be, in that particular theater of operation, one infantry battalion for one tank company. By the lack of available armored personnel carriers except half tracks, the mobility for infantry was obtained in the field by the transport of infantrymen on the rear deck of tanks. The cohesion obtained within armored or amphibious groups was excellent, because of the origin of the personnel, all from armor. There were no problems for communication or for coordinated and quick maneuvers, and furthermore, no problems of unity of command.

The various tactics used in different regions have been fitted to the different materials and to the seasonal changes of weather. They have varied also according to the enemy and the personalities of leaders, so that the obstacles of terrain were reduced and it was

⁵Four combat platoons in each company.

even frequent to see armored units in night fighting. Opposed to an enemy acting by night, which is a permanent characteristic of insurgency warfare, French armored units became well trained for quick and violent night interventions and several times under favorable occasions the Viet Minh were severely defeated; for example, Thien-Ko Tonkin July 18, 1954⁶.

Beginning the Indochina campaign with armored regiments similar to those which had fought in Europe during World War II, French armor reached 1954 with units organized on very different concepts, but suitable for those particular conditions. When the cease fire was implemented, that evolution was still considered as insufficient. Despite terrain, various threats, and increasingly necessary support for infantry, the need for units fitted for the missions of cavalry was generally felt by everybody.

FRENCH ARMOR IN INDOCHINA

(1945 - 1954)

In October 1945, the units of the French Expeditionary Force landed again in Indochina, with the objective of rapidly reoccupying the country, Lieutenant General LECLERC, who was in command, had been the commanding general of the 2nd French Armored Division in 1944-45. He employed the few armored vehicles he had in the same classic way as he had previously done in France and Germany. On February 5, 1946, all of southern Indochina was reoccupied. Then, after the agreements with the Viet-Minh (March 6, 1946), the French units landed in the North and rapidly seized control of the Tonkin delta.

Those first easy successes in a country where no armored vehicle had ever moved before¹ had created a misleading atmosphere of safety. That was quickly confirmed when the hostilities were resumed by the Viet Minh forces after December 19, 1946. Road-bound, almost everyday in regular convoy escorts, Armor units suffered several serious misfortunes. With Marechal de Lattre in 1950 and the creation of Armored Groups and Amphibious groups, French Armor step-by-step recovered a suitable role.

It seems interesting to cover this evolution, from the classic factors of the problem: terrain, means, enemy, missions to the organization and tactics known at the end of that 9 year campaign.

¹ Prior to the Japanese occupation, however, a platoon of old obsolete Renault-FT tanks previously used during WWI was stationed in Hanoi.

TERRAIN

In Indochina, where one finds swamps and jungles, cultivated plains and forest-covered plateaus, open hills, and rocky mountains, a large part of the country could not be crossed by any vehicle. Roads and trails, poorly maintained during the war, had been sabotaged by the enemy; rains made them slippery and often untrafficable during the monsoon season. The bridges still intact were not suitable for wide, heavily armored vehicles. (For crossing the Red River in Hanoi, tanks and half tracks had to be loaded on flat cars rolling on the railroad of the Doumer Bridge.)

Nevertheless, with stubborn energy, Armor leaders strived to find best secondary roads and cross-country possibilities. Routes, crossing points and trafficable areas were put into files in every sector according to seasonal variations. At the price of much weariness and effort, the different armored units were able to find again the necessary area for maneuver, even bringing the fight across flooded rice paddies or swamps, according to vehicles employed. Soon, only rugged jungle areas remained impenetrable.

MATERIELS

Landing in 1945 with US vehicles used during World War II (Armored Car M8 - Scout Car M3 - Half Track M3 - Light Tank M5 - Howitzer M8), French Armor equipped its new "regiments" with British vehicles (Armored Car COVENTRY and Scout Car HUMBER) or even with out-of-date French armored cars (PANHARD 1939). Their qualities and defects are well known, but French industries destroyed during the war were still unable to provide better. These vehicles were very useful and appreciated for all the

built also; their low ground pressure (less than 10 P.S.I.) was the most appreciated characteristic - light, fast, reliable, well equipped, this tank could be driven everywhere during the dry season and used even across flooded rice paddies. It was also air transportable, in separate loads, for lack of airfield and aircraft of sufficient size (i.e. 82 loads airlifted by 2 BRISTOL and 3 DC-3 DAKOTA airplanes) so that a company with 10 M-24 tanks was air transported and rebuilt in Dien Bien Phu, and also a platoon with 5 M-24 tanks in Luang-Prabang (Laos).

At last, it must be noticed the creation of one "Regiment" equipped with heavy M-36 tank-destroyers, able to counteract eventually the threat of Chinese Armor in 1952. (Also to prevent that threat in 1951, Marchal de Lattre had ordered the construction of a fortified line around the Tonkin delta). In fact, these tanks, equipped with a 90-mm gun and broad tracks, were used for supporting infantry units.

ENEMY

From the very beginning, the Viet Minh adjusted antitanks tactics to oppose French armored units. Mines were largely classed ahead among employed devices, with 85% of damaged or destroyed armored vehicles. Their variety was immense, from the unexploded and locally recovered air bomb to the China-built classic antitank mine; generally the enemy detonated them when armored vehicles passed. Fortunately the tank hulls often resisted the blast, and after some time, the maintenance mechanics were able to repair damages.

Acting as guerrillas, the Viet Minh could not burden its units with

a too heavy antitank armament without taking the risk of a reduced mobility for its battalions. Its portable antitank weapons (75-mm and 57mm recoilless gun - S.K.Z.³ - Bazookas) can be credited for a low percentage of destroyed armored vehicles; in fact, often destroyed, after immobilization, by a direct assault led by Viet Minh soldiers carrying explosives, charges or "Molotov Cocktails."

The Viet Minh, requisitioning local civilian manpower, built obstacles on all routes - ditches, walls, barricades, etc...often combined with mines or booby traps. In Tonkin, for example, many villages were encircled with a 6-foot high earth wall; and sometimes, the access across rice paddies was forbidden by actual antitank ditches running on several hundred meters. Despite the willingness and stamina of the leaders it was often very difficult to pass through and only after excessive and time-wasting efforts. (French Armor had no tank-dozers and no AVLB).

The Viet Minh tactics, dealing with antitank defense, mainly laid on ambushes, always with similar planning: to stop the convoy in a narrow or rugged passage, then after an intensive and violent fire-support to launch a quick assault. The best parry obviously consisted of thwarting this ambush, which was difficult to succeed with such a master in concealment as this enemy. Every leader of a surprised unit also had orders for keeping his mobility, at any price. An armored

³ S.K.Z. "Sung Khong Giat" (Viet Minh recoilless gun).

vehicle stopped and isolated in an ambush is a blind and harmless prey easy to destroy for a daring enemy. Unfortunately the indispensable and regular missions imposed on Armor units did not always allow them to counteract the Viet Minh assaults nor to avoid bloody misfortunes (convoy of DAIAT March 1, 1948).

MISSIONS

After the rapid reoccupation of Indochina by mobile columns exploiting along roads, it was necessary to understand that the struggle extended all over the country, often far from the roads; however, those communication lines remained vital for liaisons and supplies, with the lack of airfield facilities and a sufficient number of aircrafts.

Therefore, French Armor had to assume the protection of roads, rivers and, even, railroads. On roads, the integrity of the route had to be checked before the daily or periodical traffic of vehicles or convoys; then it was responsible for the traffic security while patrolling; or escorting convoys themselves.

The mission was similar on rivers, especially on the Saigon River, from the port down to the sea. On all important rivers those armored motorboats were employed either in separate platoons (6 boats) or in separate troops (3 platoons) and they were quickly driven up to the smallest tributaries.

On railroads, the main bridges of which were under the protection of small posts, French Armor had to provide crews for armored trains escorting the "Gafales" (wind blast) composed of 2 or 3 trains, following

each other, once a week, on the different sections from Saigon to Nha Trang, from Tourane to Hue and Dong Ha, and from Hai-Phong to Hanoi.

Besides that essential mission, armored units were called for interventions, as fire brigades running toward a blazing fire, by day and by night, to help attacked posts or units pinned down in an ambush, the Armored Platoons started to rescue their harassed friends. Such interventions became more and more hazardous because of the Viet Minh who was aware of these reactions, and provoked them attacking far posts in order to ambush intervening platoons.

Infantry battalions also claimed armor support against an enemy who was becoming better trained, and a very close cooperation between Infantry and Armor became the rule; but, dispersion of units along roads, lack of strength and poor cross-country mobility of wheeled vehicles restricted the benefit of such combined operations. Moving at the same speed as foot infantrymen, or assuming monotonous "bouclages" (blocking lines), armored units consumed their potential without any real benefit.

EVOLUTION OF ORGANIZATION

The 2 first "Armored groups" (sous groupements blindes or GB) were organized only in 1951, with their own attached infantry. Under the command of a small armored HQ, these armored groups included one company of M24 tanks (4 sections, with 3 tanks and 2 half tracks) and 2 mechanized infantry companies on half tracks. The effectiveness of that formula was rapidly confirmed during the operations of Hoa Binh (Nov 1951 - Feb 1952) and Phu-To (Oct - Nov 1952).

Simultaneously were created "Reconnaissance Groups" (groupes d'

Escadrons de Reconnaissance or G. E. R.) composed of one M24 tank company, one armored car troop (3 platoons, with 5 M8 armored cars and one platoon with three M8 howitzer) and one or two companies of "suppletifs" (indigenous forces).

It is essential to avoid any confusion between these units pertaining to Armor and the mobile groups (groupements mobiles or G.M.) which were created at the same period and were composed of 3 infantry battalions (mounted on trucks), supported by one towed artillery group (105-mm) and by one platoon of three M24 tanks (seldom by one tank company, such as the GM 100, for example.)

At the same time amphibious units were more and more employed⁴. Two groups, each composed of two companies of "crabs" were created, soon reinforced by two "alligators" platoons carrying one company of "suppletifs" and able to operate where the "crabs" were stopped by the impenetrable terrain or the enemy fire. They were intensively and successfully employed in the Plain of Meads and in the area around Nam Dinh (Tonkin).

The organization of these armored and amphibious groups allowed French Armor to regain its own momentum. However, very often it was still necessary to attach an infantry battalion to those units, because of the proportion of personnel that did not permit enough dismounted soldiers to search villages. In fact, it was impossible to request more officers and enlisted men from Armor. By this time, under the impulse of Marechal de Lattre, the young Vietnamese, Laotian and

⁴1er Regiment de Chasseurs et 1er Regiment Etranger de Cavalerie

Cambodian armies had begun their build up. French armor which used many locally enlisted crewmen since 1948 (often, more than 50%) had not only to train the first five Armored Vietnamese troops (and the Laotian and Cambodian troops) but to create one infantry battalion for the national armies from each of its Regiments. At the end of 1948, after that crisis of personnel and the first lessons of those experiments, the following structures were adopted:

1. Armored Group - Mainly composed of one M24 tank company (4 platoons with 4 tanks) and 3 companies of truck mounted infantry (4 platoons plus one support platoon). They also had one mechanized infantry company (4 platoons with 4 half tracks) and one 81-mm mortar platoon, mounted on half tracks. This unit was under the command of a HQ well provided with communications means and able to control several attached units.

2. Amphibious Groups - With an amphibious mobile HQ, it included 2 HQ for Sub Groups permitting the "tailoring" of the following units:

-2 "crabs" companies (each with 33 "crabs" and 3 platoons).

-3 "alligators" troops (each with 11 LVTs, 3 of them with 75-mm howitzer, and carrying 3 infantry platoons).

-1 regimental support platoon with 6 75-mm howitzer - LVTs.

At the end of that evolution, French Armor recovered armored units able to engage by themselves the enemy with effectiveness. The Viet Minh had many bitter experiences (Camargue, Murette, Gerfaut, Auvergne operations), and on July 20, 1954, at the cease fire time there were 4 armored groups and 2 amphibious groups (plus 3 G. E. R. and 6 other

armored "regiments."

TACTICAL EMPLOYMENT

Split between the necessity of supporting infantry and the desire of its own maneuver with all its means concentrated in a strike force, French Armor during 9 years on the battlefields has had many opportunities of reaching some particular tactical conclusions.

If the tank platoon could be temporarily attached to some infantry units, the troop was only able to have the necessary firepower and mobility to lead the fight at its own momentum facing a battalion strength enemy. The indispensable flexibility for maneuver was easier with the quaternary articulation within the unit; and the changing of combat formations was often achieved in direct sight without any problems of communications between those well trained crews.

The best Infantry Armor proportion has been revealed to be, in that particular operation theater, one infantry battalion for one tank company. By the lack of available A.P.C. except half tracks, the mobility for infantry was obtained in the field by the transport of infantrymen on the rear deck of tanks. The cohesion obtained within armored or amphibious groups was excellent, because of the origin of the personnel, all from Armor without any problem of unity of command, there were no more problems for communication or for coordinated and quick maneuvers.

The various tactics used in different regions have been fitted to the different materials and to the seasonal changes of weather. They have varied also according to the enemy and the personalities of leaders, so

that the obstacles of terrain were reduced and it was even frequent to see armored units in night fighting. Opposed to an enemy acting by night (which is a permanent characteristic of insurgency warfare) French armored units became well trained for quick and violent night interventions and several times under favorable occasions the Viet Minh was severely defeated (for example Thien-Ke Tonkin July 18, 1954).

Beginning the Indochina campaign with Armored "Regiments" similar to those which had fought in Europe during WW II, French Armor reached 1954 with units organized on very different concepts, but suitable for those particular conditions. When the cease fire happened, that evolution was still considered as insufficient. Despite terrain, various threats, and increasingly necessary support for infantry, the need for units fitted for the missions of cavalry was generally felt by everybody.

TERRAIN:

In Indochina, where one finds swamps and jungles, cultivated plains and forest-covered plateaus, open hills, and rocky mountains, a large part of the country could not be crossed by any vehicle. Roads and trails, poorly maintained during the war, had been sabotaged by the Viet-Minh, rains made them slippery and often un-trafficable during the 6-month monsoon season. The bridges still intact were not suitable for wide, heavily armored vehicles. (For crossing the Red River in Hanoi, tanks and half tracks had to be loaded on flat cars rolling on the railroad of the Doumer Bridge.)

Nevertheless, with stubborn energy, Armor leaders strived to find best secondary roads and cross-country possibilities. Routes, crossing points, and trafficable areas were put into files in every sector according to seasonal variations. At the price of much weariness and effort, the different armored units were able to find again the necessary area for maneuver, even bringing the fight across flooded rice fields or swamps, according to vehicles employed. Soon, only rugged jungle areas remained impenetrable.

MATERIALS:

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As early as 1948, French armor, looking eagerly for crosscountry mobility, organized its first amphibious units and tested them in the Plain of Reeds (Mekong Delta). The new materials, Cargo Carrier M99C (nicknamed "Crab") and LVT L or LA (so called "Alligator") were not designed for such an intensive use in muddy areas; the first one was a US cargo vehicle, without armor, to be employed in icy Alaska; the second was an armored personnel carrier used for ship-to-shore landings in the Pacific during World War II. The first results were disappointing, but quickly the leaders found suitable tactics and the crews became skillful technicians, while the vehicles received more suitable weapons and armored vehicles for gunners (on the LVT's were mounted two caliber .50 and two caliber .30 machineguns and even sometimes an automatic BOFORS 40-mm gun).

The possibilities presented by the dense network of rivers and canals, pointed toward the use of river boats. The French Navy organized early in 1945 its "DINASSAUT," composed with LCI, LCM, and LCVT,² French armor embarked on lighter boats able to go upstream in narrow and shallow "rachs" at the pursuit of enemy sampans. These boats ran up to 8 meters or 10 meters long; proceeding at 10 knots, and equipped with three machineguns and a grenade launcher, these armored motor boats were operated by five crewmen.

The first M5 tanks were replaced in 1950-51 by M24 light tanks, US built also; their low ground pressure (less than 10 P.S.I.) was

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² DINASSAUT - Division Navale d'Assaut ~~Division~~
LCI, LCM, LCVP: US Navy designations for small landing vessels.

the most appreciated characteristic. Light, fast, reliable, well equipped, this tank could be driven everywhere during the dry season and used even across flooded rice fields. It was also air transportable in separate component loads for lack of airfield and aircraft of sufficient size (i.e., 32 loads airlifted by two Bristol and three C-47 airplanes) so that a company with ten M24 tanks was air transported and rebuilt in Dien Bien Phu, and also a platoon with five M24 tanks in Luang-Prabang (Laos).

At last, it must be noticed the creation of one regiment equipped with heavy M36 tank destroyers able to counteract eventually the threat of Chinese Communist armor in 1952. Also to prevent that threat in 1951, Marshal de Lattre had ordered the construction of a fortified line around the Tonkin Delta. In fact, these tank destroyers equipped with a 90-mm gun and broad tracks were used for supporting infantry units.

ENEMY: From the very beginning, the Viet Minh adjusted their antitank tactics to oppose French armored units. Among employed devices, mines were largely placed ahead with 85 percent of damaged or destroyed armored vehicles. Their variety was immense, from the unexploded and locally recovered aircraft-bomb to the China-built antitank mine; generally the enemy manually detonated them when armored vehicles passed. Fortunately the tank hulls often resisted the blast, and after some time, the maintenance mechanics were able to repair damage.

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The Viet Minh tactics, dealing with antitank defense, mainly laid on ambushes, always with similar planning: to stop the convoy in a narrow or rugged passage, then, after an intensive and violent fire support, to launch a quick assault. The best parry obviously consisted of thwarting this ambush, which was difficult to succeed with such a master in concealment as this enemy. Every leader of a surprised unit also had orders for keeping his mobility, at any price. An armored vehicle stopped and isolated in an ambush is a blind and

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At the same time amphibious units were employed to a greater extent.⁴ Two groups, each composed of two companies of "crabs" were created, soon reinforced by two "alligators" platoons carrying one company of "suppletifs" and able to operate where the "crabs" were stopped by the impenetrable terrain or the enemy fire. They were intensively and successfully employed in the Plain of Reeds and in the area around Nam Dinh (Tonkin).

The organization of these armored and amphibious groups allowed French armor to regain its own momentum. However, very often it was still necessary to attach an infantry battalion to those units, because of the proportion of personnel that did not permit enough dismounted soldiers to search villages. In fact, it was impossible to request more officers and enlisted men from armor. By this time under the impulse of Marshal de Lattre, the young Vietnamese, Laotian and Cambodian armies had begun their build up. French armor which used

many locally enlisted crewmen since 1948 (often, more than 50 percent) had not only to train the first armored Vietnamese troops (and the Laotian and Cambodian troops) but to create one infantry battalion for the national armies from each of its "régiments." At the end of 1948, after that crisis of personnel and the first lessons of these experiments, the following structures were adopted:

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EMPLOYMENT:**

Split between the necessity of supporting infantry and the desire of its own maneuver with all its means concentrated in a strike force, French Armor, after 9 years on the battlefields, was able to reach some particular tactical conclusion.⁵

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The best infantry-armor balance has been revealed to be, in that particular theater of operation, one infantry battalion for one tank company. By the lack of available armored personnel carriers except half tracks, the mobility for infantry was obtained in the field by the transport of infantrymen on the rear deck of tanks. The cohesion obtained within armored or amphibious groups was excellent, because of the origin of the personnel, all from armor. There were no problems for communication or for coordinated and quick maneuvers, and furthermore, no problems of unity of command.

The various tactics used in different regions have been fitted to the different materials and to the seasonal changes of weather. They have varied also according to the enemy and the personalities of leaders, so that the obstacles of terrain were reduced and it was

⁵Four combat platoons in each company.

FRENCH ARMOR IN INDOCHINA

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In October 1945, the units of the French Expeditionary Force landed again in Indochina, with the objective of rapidly reoccupying the country. Lieutenant General LECLERC, who was in command, had been the commanding general of the 2d French Armored Division in 1944-45. He employed the few armored vehicles he had in the same classic way as he had previously done in France and Germany. On February 5, 1946, all of southern Indochina was reoccupied. Then, after the agreements with the Viet-Minh (March 6, 1946), the French units landed in the north and rapidly seized control of the Tonkin Delta.

These first easy successes in a country where no armored vehicle had ever moved before¹, had created a misleading atmosphere of safety. That was quickly confirmed when the hostilities were resumed by the Viet Minh forces after December 19, 1946. Road-bound, almost everyday in regular convoy escorts, Armor units suffered several serious misfortunes. With Marshal de Lattre in 1950 and the creation of Armored groups and Amphibious groups, French Armor step-by-step recovered a suitable role.

It seems interesting to cover this evolution, from the classic factors of the problem: terrain, means, enemy, missions to the organization and tactics known at the end of that 7-year campaign.

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Nevertheless, with stubborn energy, armor leaders strived to find best secondary roads and cross-country possibilities. Scouts, crossing points, and trafficable areas were put into files in every sector according to seasonal variations. At the price of much weariness and effort, the different armored units were able to find again the necessary area for maneuver, even bringing the fight across flooded rice fields or swamps, according to vehicles employed. Soon, only rugged jungle areas remained impenetrable.

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² DIVASSAUT - Division Navale d'Assaut ~~Division~~
LCI, LCM, LCVP: US Navy designations for small landing vessels.

the most appreciated characteristic. Light, fast, reliable, well equipped, this tank could be driven everywhere during the dry season and used even across flooded rice fields. It was also air transportable in separate component loads for lack of airfield and aircraft of sufficient size (i.e., 32 loads airlifted by two Bristol and three C-47 airplanes) so that a company with ten M24 tanks was air transported and rebuilt in Dien Bien Phu, and also a platoon with five M24 tanks in Luang-Prabang (Laos).

At last, it must be noticed the creation of one regiment equipped with heavy M36 tank destroyers able to counteract eventually the threat of Chinese Communist armor in 1952. Also to prevent that threat in 1951, Marshal de Lattre had ordered the construction of a fortified line around the Tonkin Delta. In fact, these tank destroyers equipped with a 90-mm gun and broad tracks were used for supporting infantry units.

NOTE: From the very beginning, the Viet Minh adjusted their antitank tactics to oppose French armored units. Among employed devices, mines were largely placed ahead with 85 percent of damaged or destroyed armored vehicles. Their variety was immense, from the unexploded and locally recovered aircraft-bomb to the China-built antitank mine; generally the enemy manually detonated them when armored vehicles passed. Fortunately the tank hulls often resisted the blast, and after some time, the maintenance mechanics were able to repair damage.

Acting as guerrillas, the Viet Minh could not burden its units

with a too heavy antitank armament without taking the risk of a reduced mobility for its battalions. Its portable antitank weapons (75-mm and 57-mm recoilless rifle - S.K.Z. - Bazooka) can be credited for a low percentage of destroyed armored vehicles; in fact, often destroyed, after immobilization, by a direct assault led by Viet Minh soldiers carrying explosives, charges or "Molotov Cocktails."

The Viet Minh, requisitioning local civilian manpower, built vehicle obstacles on all routes--ditches, walls, barricades, etc., often combined with mines or boobytraps. In Tonkin, for example, many villages were encircled with a 6-foot high earth wall; and sometimes the access across rice fields was forbidden by actual antitank ditches running on several hundred meters. Despite the willingness and stamina of the leaders it was often very difficult to pass through, and only after excessive and time-wasting efforts. (French armor had no tank-dozers and no mobile bridging equipment, such as armored vehicle launching bridge.)

The Viet Minh tactics, dealing with antitank defense, mainly laid on ambushes, always with similar planning: to stop the convoy in a narrow or rugged passage, then, after an intensive and violent fire support, to launch a quick assault. The best parry obviously consisted of thwarting this ambush, which was difficult to succeed with such a master in concealment as this enemy. Every leader of a surprised unit also had orders for keeping his mobility, at any price. An armored vehicle stopped and isolated in an ambush is a blind and

harmless prey easy to destroy for a daring enemy. Unfortunately, the indispensable and regular missions imposed on armor units did not always allow them to counteract the Viet Minh assaults nor avoid bloody misfortunes (convoy of DALAT March 1, 1948).

MISSIONS:

After the rapid reoccupation of Indochina by mobile columns exploiting along roads, it was necessary to understand that the struggle extended all over the country, often far from the roads; however, those communication lines remained vital for liaisons and supplies, with the lack of airfield facilities and a sufficient number of aircraft.

Therefore, French armor had to assume the protection of roads, rivers, and even, railroads. On roads, the integrity of the route had to be checked before the daily or periodical traffic of vehicles or convoys; then it was responsible for the traffic security while patrolling or escorting convoys themselves.

The mission was similar on rivers, especially on the Saigon River, from the port down to the sea. On all important rivers, armored motor boats were employed either in separate platoons (6 boats) or in separate troops (3 platoons) and they were quickly driven up to the smallest tributaries.

On railroads, the main bridges were under the protection of small posts, French armor had to provide crews for armored trains escorting the "Rafales" (wind blast) composed of two or three trains, following each other, once a week, on the different sections from Saigon to Nha Trang, from Tourane to Hue and Dong Ha, and from Hai-Phong to Hanoi.

Besides that essential mission, armored units were called for interventions, as fire brigades running toward a blazing fire, by day and by night, to help attacked posts or units pinned down in an ambush, the armored platoons started to remove their harassed friends. Such interventions became more and more hazardous because of the Viet Minh who were aware of these reactions and provoked them attacking far posts in order to ambush intervening platoons.

Infantry battalions also requested armor support against an enemy who was becoming better trained, and a very close cooperation between Infantry and Armor became the rule; but dispersion of units along roads, lack of strength and poor crosscountry mobility of wheeled vehicles restricted the benefit of such combined operations. Moving at the same speed as foot infantrymen, or assuming monotonous "bouclages" (blocking lines), armored units consumed their potential without any real benefit.

**EVOLUTION OF
ORGANIZATION:**

The first "armored groups" (sous groupements blindés or GB) were organized only in 1951, with their own attached infantry. Under the command of a small armored HQ, these armored groups included one company of M41 tanks (4 sections, with 3 tanks and 2 half tracks) and two mechanized infantry companies on half tracks. The effectiveness of that formula was rapidly confirmed during the operations of Hoa Binh (Nov 1951 - Feb 1952) and Phu-To (Oct - Nov 1952).

Simultaneously were created "Reconnaissance Groups" (groupes d'Escadrons de Reconnaissance or G. E. R.) composed of one M41 tank

company, one armored car troop (3 platoons, with 5 M3 armored cars and 1 platoon with 3 M3 howitzer) and one or two companies of "suppletifs" (indigenous forces).

It is essential to avoid any confusion between those units pertaining to armor and the motile groups (groupements mobiles or G.M.) which were created at the same period and were composed of three infantry battalions (mounted on tracks), supported by one towed artillery group (105-mm) and one platoon of three M24 tanks (seldom by one tank company, such as the GM 100, for example.)

At the same time amphibious units were employed to a greater extent.⁴ Two groups, each composed of two companies of "crabs" were created, soon reinforced by two "alligators" platoons carrying one company of "suppletifs" and able to operate where the "crabs" were stopped by the impenetrable terrain or the enemy fire. They were intensively and successfully employed in the Plain of Reeds and in the area around Nam Dinh (Tonkin).

The organization of these armored and amphibious groups allowed French armor to regain its own momentum. However, very often it was still necessary to attach an infantry battalion to those units, because of the proportion of personnel that did not permit enough dismounted soldiers to search villages. In fact, it was impossible to request more officers and enlisted men from armor. By this time under the impulse of Marshal de Lattre, the young Vietnamese, Laotian and Cambodian armies had begun their build up. French armor which used

many locally enlisted crewmen since 1948 (often, more than 50 percent) had not only to train the first armored Vietnamese troops (and the Laotian and Cambodian troops) but to create one infantry battalion for the national armies from each of its "régiments." At the end of 1948, after that crisis of personnel and the first lessons of these experiments, the following structures were adopted:

1. Armored Group, which is composed mainly of one M24 tank company (4 platoons with 4 tanks) and three companies of truck-mounted infantry (4 platoons plus one support platoon). This group also had one mechanized infantry company (4 platoons with 4 half tracks) and one 81-mm mortar platoon, mounted on half tracks. This unit was under the command of a HQ well provided with communications means and able to control several attached units.

2. Amphibious Group, with an amphibious mobile HQ, which included two HQ for subgroups permitting the "tailoring" of the following units:

- 2 "crab" companies (each with 33 wrecks and 3 platoons).
- 3 "alligator" troops (each with 11 LVT's, 3 of them with 75-mm howitzers, and carrying 3 infantry platoons).
- 1 regimental support platoon with six 75-mm howitzer LVT's.

At the end of that evolution, French Armor recovered armored units able to engage by themselves the enemy with effectiveness. The Viet Minh had many bitter experiences (Comargue, Houette, Garfaut, Auvergne operations), and on July 20, 1954, at the cease fire time there were four armored groups and two amphibious groups (plus three G.R.R. and six other armored "régiments.")

TACTICAL
EMPLOYMENT:

Split between the necessity of supporting infantry and the desire of its own maneuver with all its means concentrated in a strike force, French Armor, after 9 years on the battlefields, was able to reach some particular tactical conclusions.

If a tank platoon could be temporarily attached to some infantry units, the troop was only able to have the necessary firepower and mobility to lead the fight at its own momentum facing a battalion strength enemy. The indispensable flexibility for maneuver was easier with the quaternary articulation within the unit⁵; and the changing of combat formations was often achieved in direct sight without any problems of communication between these well-trained crews.

The best infantry-armor balance has been revealed to be, in that particular theater of operation, one infantry battalion for one tank company. By the lack of available armored personnel carriers except half tracks, the mobility for infantry was obtained in the field by the transport of infantrymen on the rear deck of tanks. The cohesion obtained within armored or amphibious groups was excellent, because of the origin of the personnel, all from armor. There were no problems for communication or for coordinated and quick maneuvers, and furthermore, no problems of unity of command.

The various tactics used in different regions have been fitted to the different materials and to the seasonal changes of weather. They have varied also according to the enemy and the personalities of leaders, so that the obstacles of terrain were reduced and it was

⁵Four combat platoons in each company.

even frequent to see armored units in night fighting. Opposed to an enemy acting by night, which is a permanent characteristic of insurgency warfare, French armored units became well trained for quick and violent night interventions and several times under favorable occasions the Viet Minh were severely defeated; for example, Thien-Ko Taskin July 18, 1954⁶.

Beginning the Indochina campaign with armored regiments similar to those which had fought in Europe during World War II, French armor reached 1954 with units organized on very different concepts, but suitable for those particular conditions. When the cease fire was implemented, that evolution was still considered as insufficient. Despite terrain, various threats, and increasingly necessary support for infantry, the need for units fitted for the missions of cavalry was generally felt by everybody.

Exemplaire
à conserver

L'ARME BLINDÉE CAVALÈRE FRANÇAISE EN INDOCHINE
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(1945 - 1954)

En Octobre 1945, les troupes du Corps Expéditionnaire Français débarquaient à nouveau en Indochine, avec pour objectif la réoccupation rapide du pays. Leur chef, le Général LECHEU, ancien commandant de la 2^e D.B. Française, utilisa les quelques blindés dont il disposait dans le style classique des récents combats de France et d'Allemagne. Le 7 Février 1946, tout le Sud de l'Indochine était réoccupé. Et, après les accords du 6 Mars avec le Viet-Minh, les troupes Françaises débarquaient et contrôlaient rapidement le Tonkin.

Ces premiers succès faciles dans un pays où aucun blindé n'avait jamais circulé auparavant⁽¹⁾, avaient créé un sentiment trompeur de sécurité. Cela se confirma rapidement lors de la reprise des hostilités par le Viet-Minh après le 19 Décembre 1946. Liées aux routes, la plupart du temps dans la routine des escortes de convois, les Unités de l'ABC subirent plusieurs sérieux revers. Avec le Maréchal de LATTRE en 1950, et la création des Sous-Groupements Blindés et des Sous-Groupements Amphibies, l'ABC retrouva peu à peu un rôle à sa mesure.

Cette évolution semble intéressante à retracer en partant des classiques données du problème, Terrain, Moyens, Ennemi, Missions pour aboutir à l'organisation et aux tactiques employées après 9 années de combats.

LE TERRAIN

En Indochine, où l'on passe des marécages aux jungles, des plaines cultivées aux plateaux couverts de forêts, sans oublier les collines et les montagnes rocheuses, une grande partie du pays était impraticable

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(1) Avant l'occupation Japonaise, il y avait bien eu à HANOI un Peloton de vieux chars Renault FT datant de la Grande Guerre....

- 2 -

à tous véhicules. Les routes et pistes, les pontons pendant la guerre, avaient été sabotés par l'ennemi; les pluies les rendaient glissantes et souvent inutilisables en saison de mousson. Les ponts restés intacts, étaient inadaptés au trafic de blindés de large gabarit et de tonnage important (pour passer d'une rive à l'autre du fleuve rouge à HANOI, les chars et half-tracks devaient embarquer sur des wagons pour franchir le Pont DUUMER par voie ferrée)

Peu à peu, pourtant, les cadres de l'ABC s'efforcèrent avec une ~~IXXIII~~ farouche énergie de trouver de meilleures possibilités hors des routes en tout-terrain. Les itinéraires, les points de passage, les zones praticables furent recensés dans chaque secteur en tenant compte des variations saisonnières. Au prix de fatigues et d'efforts sans compter, les différentes unités blindées retrouvèrent ainsi l'espace de manoeuvre nécessaire, portant le combat jusqu'au milieu des rizières inondées ou même des marécages selon les matériels utilisés. Seules les zones de jungle accidentées restèrent bientôt inaccessibles.

MATÉRIELS:

Lébarquant en 1947 avec les matériels américains utilisés pendant la Deuxième Guerre Mondiale (AM M3 Scout-Car, Half-track, Char M5, Obusier M8), l'ABC équipa ses nouveaux Régiments de matériels britanniques (AM COVENTRY et Scout-Car Humber) ou de vieilles automitrailleuses françaises (PAMHA 1939). Leurs qualités et leurs défauts sont bien connus, mais les industries françaises ruinées par la Guerre ne pouvaient fournir mieux à l'époque. Ces véhicules rendirent de bons services pour toutes les missions de protection d'itinéraires, voire d'intervention pour lesquelles ils furent utilisés.

Dès 1948, l'ABC, à la recherche de la mobilité en tout-terrain, mettait sur pied ses premières unités amphibies et les utilisait

dans la Plaine des Junces. Les nouveaux matériels, Cargo Carrier M 29 C (surnommé "Crabe") et LVT 4 ou 4A ("Alligators") n'étaient pas conçus pour un tel emploi intensif en zone marécageuse; le premier était un véhicule Américain de ravitaillement, destiné aux glaces de l'Alaska, le second un transport blindé utilisé pour les débarquements de vive force dans le Pacifique. Leur débuts furent décevants, mais bientôt les cadres trouvèrent les tactiques adaptées et les équipages acquerrèrent l'instruction technique nécessaire, tandis que les matériels eux-mêmes recevaient un armement plus approprié avec des boucliers de blindage pour les tireurs (Les LVT requèrent ainsi 2 mitrailleuses de 12,7 et 2 mitrailleuses de 7,62, et parfois même un canon sofos de 40)

Les possibilités offertes par le réseau dense de voies d'eau, rivières et canaux, incita aussi à l'emploi d'embarcations fluviales. Tandis que la Marine Française organisait, dès 1945, ses "MINAUBAUT" composées de LCI, LCM, et LCVP, l'ABC embarquait sur des bateaux plus légers, capables de remonter les "rachs" peu profonds et étroits à la poursuite des sampans ennemis. Ces embarcations évoluèrent jusqu'à la mise en service de vedettes blindées de 8 ou 11 mètres de long, filant 10 noeuds, armées de 3 mitrailleuses et d'un lance-grenade servis par un équipage de 5 hommes.

Les premiers chars M 5 furent remplacés en 1950-51 par des chars M 24, d'origine américaine également; leur faible pression unitaire (750 gr/cm^2) fut certes l'élément le plus apprécié des cadres de l'ABC. Léger, rapide, robuste, bien armé, ce char pouvait passer partout en saison sèche et traverser de larges étendues de rizières inondées. Devenu l'élément de force de toute action, ce char fut même rétrotransporté, en fardeaux séparés faute de terrain et d'avion de taille suffisante (soit 32 fardeaux nécessitant 2 avions BRISTOL et 2 DC-3 LAKOTA)

Furent ainsi remontés à destination, un Escadron à 10 chars M 24 à BIEN BIEN PHU, et un Peloton à 5 Chars M 24 à LOANG-PHABANG (Laos)

Il faut signaler enfin l'existence d'un Régiment (R.B.C.K.O.) mis sur pied en 1952 avec des chars lourds M 36, pour répondre à l'apparition éventuelle de blindés communistes Chinois. (Pour parer également à cette menace, en 1951, le Maréchal de LATTRE avait ordonné la construction de la ceinture fortifiée entourant le Delta du TONKIN) Ces chars, armés d'un canon de 90mm et équipés de larges chenilles furent, en fait utilisés en appui d'unités d'Infanterie.

L'ENNEMI:

Dès le début, le Viet-Minh mit au point des moyens de lutte anti-char pour s'opposer à l'action de nos unités blindées. Les mines se classèrent largement en tête des procédés employés, par le nombre des blindés endommagés ou détruits (85 % du total). Leur variété était immense, de la bombe d'avion non explosée et récupérée localement à la mine anti-char classique d'origine chinoise; les mises à feu télécommandées (étaient les plus courantes. Heureusement les caisses de chars résistaient assez bien et, en quelques heures, les équipes de dépannage parvenaient souvent à réparer les dégâts.

Menant un combat de guérilla, le Viet-Minh ne pouvait sans alourdir ses unités par un armement anti-char trop encombrant sans risquer de réduire la mobilité de ses Bataillons. Ses armes anti-char portatives (Canons de 75mm SK et de 57mm SK - S.K.Z. - Bazookas) comptent à leur actif un faible pourcentage des blindés détruits; souvent détruits en fait, après immobilisation, par un assaut direct de combattants porteurs de charges explosives ou de bouteilles d'essence.

Le Viet-Minh, disposant de la main d'oeuvre civile locale récu-

sitionnées de force, créait sur tous les itinéraires d'accès des obstacles de toute nature: fossés, merlons en terre, abattis, etc;.. combinés le plus souvent avec des mines ou des pièges. Au TONKIN, par exemple, de nombreux villages furent ainsi encerclés d'un mur^{en} terre de plus de 2 mètres de hauteur; et, parfois même, les accès en rizières étaient interdits par de véritables fossés anti-chars de plusieurs centaines de mètres de longueur. Malgré l'esprit d'allant des cadres il s'avérait souvent ~~très~~ très difficile de passer au-delà et seulement aux prix d'efforts et de délais excessifs (L'ASC ne disposait pas de tank-dozers, ni de ponts d'assaut mobiles)

La tactique du Viet-Minh, s'attaquant aux blindés, reposait essentiellement sur l'organisation d'embuscades, au scénario toujours analogue: stopper la colonne dans un passage étroit ou un terrain difficile, puis lancer ensuite un assaut rapide préparé par un appui de feu dense et violent. La meilleure parade consistait évidemment à réussir à déjouer cette embuscade, ce qui était difficilement réalisable avec un ennemi passé maître dans l'art du camouflage. Tout cadre d'unité blindée surprise par une embuscade avait aussi pour consigne de conserver à tout prix sa mobilité sans laquelle en de telles circonstances il n'y a plus de blindés mais des proies faciles car aveugles et statiques. Hélas! Les indispensables missions de routine imposées aux unités de l'ASC ne leur ont pas toujours permis de parer aux assauts du Viet-Minh, ni de éviter de sanglants revers (Convoi de DALAT 1er Mars 1948)

LES LÉSIONS:

Après la rapide réoccupation de l'Indochine par des colonnes mobiles lancées dans un style d'exploitation le long des axes routiers, il fallut se rendre à l'évidence que la lutte s'étendait à tout le

pays, souvent loin des routes et des pistes praticables. Ces voies de communications restaient pourtant vitales pour les liaisons et les ravitaillements, en l'absence d'une infrastructure aérienne et d'aéronefs en nombre suffisant.

L'ABC se vit donc confier la mission essentielle de protéger les routes, les voies fluviales, et même les voies ferrées. Sur les routes il s'agissait de s'assurer de l'intégrité de l'itinéraire avant le passage quotidien ou périodique des véhicules ou des convois; puis, de protéger la circulation soit en effectuant des patrouilles sur la route, soit en escortant les convois eux-mêmes.

La mission était identique sur les voies fluviales en particulier sur la Rivière de SAIGON, du port lui-même jusqu'à la mer. Sur tous les cours d'eau importants, on trouva bientôt ces vedettes blindées soit en Pelotons détachés (à 6 vedettes), soit en Escadrons (à 3 Pelotons); et leur champ d'action s'étendit largement dans les nombreux affluents des cours d'eau à surveiller.

Sur les voies ferrées, dont les principaux ouvrages étaient sous la garde de petits postes, l'ABC avait à fournir les équipages de trains blindés escortant les "refales" composées de 2 ou 3 trains se succédant à brefs intervalles une fois par semaine sur les tronçons en service de SAIGON à NHA TRANG, de TOURANE et HUE à DONG-NA, et de NAI PHONG à HANOI .

A côté de cette mission essentielle, les unités blindées étaient appelées en "intervention", un peu dans le style des sapeurs-Pompiers courant au secours d'un sinistre. De jour et de nuit, au profit de postes attaqués ou d'unités surprises par une embuscade, les Pelotons blindés s'élançaient pour secourir leurs frères d'armes en difficulté.

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De telles interventions devinrent bientôt de plus en plus en plus délicates car le Viet-Minh s'aperçut vite de ce type de réactions, et les provoqua même en harcelant les p^otes, pour monter des embuscades contre nos blindés d'intervention.

Les Bataillons d'infanterie réclamaient aussi un appui de blindés contre un ennemi qui devenait de plus en plus agerri. Et l'habitude se prit d'une coopération ~~en~~ très étroite entre l'ABC et l'Infanterie; mais, la dispersion des unités le long des itinéraires, la pénurie d'effectifs et les capacités tout-terrain des véhicules à roues limitaient le rendement de telles opérations interarmes. Progressant au rythme du fantassin à pied, ou se voyant confier de monotones missions de "bouclage", les unités blindées usaient leur potentiel sans profit réel.

EVOLUTION DE L'ORGANISATION:

Il fallut attendre 1961 pour voir se réaliser les 2 premiers Sous-Groupements Blindés possédant leur infanterie propre sur véhicules blindés. Aux ordres d'un PC blindé léger, ces Sous-Groupements étaient constitués autour d'un escadron de chars M 24 (4 Pelotons à 3 chars et 2 half-tracks) et de 2 Escadrons portés sur half-tracks. L'efficacité de la formule fut vite reconnue lors des Opérations sur HOA-BINH et sur PHUO .

Simultanément, furent créés des Groupes d'Escadrons de Reconnaissance (G.E.R.) constitués d'un Escadron de chars M 24 (4 Pelotons à 3 chars) d'un Escadron d'automitrailleuses (3 Pelotons à 5 AM M 8 + 1 Peloton à 3 Obusiers M 8) et d'une ou 2 compagnies de Supplétifs.

Il ne faut surtout pas confondre ces Unités appartenant en propre à l'ABC, avec les Groupes Mobiles (G.M.) créés à la même époque et

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comprenant 3 Bataillons d'infanterie (portés sur camions), appuyés par un groupe d'artillerie tractée (105 mm) et par un Peloton de 3 chars M 24 (Exceptionnellement par un Escadron de chars, dans le cas du GM 100, par exemple)

A la même époque se développait l'emploi d'unités amphibies (Au 1er Régiment étranger de Cavalerie et au 1er Régiment de Chasseurs) Deux Groupes d'escadrons, composés chacun de 2 Escadrons de "Crabes", furent ainsi créés, renforcés bientôt chacun par 2 Pelotons d'"Alligators" transportant une compagnie de Supplétifs, et capables d'opérer là où les "Crabes" étaient arrêtés par le terrain difficile ou le feu de l'ennemi. Ils furent aussitôt employés intensivement et avec succès en Plaine des Jongs et au TONKIN dans la région de NAM-DINH.

L'organisation de ces sous-Groupements blindés et Amphibies permit à l'ABC de retrouver son rythme de manoeuvre propre. Toutefois, la plupart du temps il était encore nécessaire de détacher auprès de ces unités un Bataillon d'Infanterie, car le dosage des personnels ne permettait pas de mettre à terre les effectifs suffisants pour effectuer les fouilles de villages. Il n'avait pas été possible, en effet, de lui demander plus de cadres et de personnels à l'ABC. A cette époque, sous l'impulsion du Maréchal de CATMIA, s'édifiaient les jeunes Armées du Vietnam, du Laos et du Cambodge. L'ABC, qui avait utilisé des personnels autochtones dans ses équipages depuis 1946 (dépassant souvent 50 % des effectifs) avait non seulement à participer à la création des 3 premiers Régiments Blindés Vietnamiens (et des Escadrons Laotiens et Cambodgiens), mais encore devait créer à partir de chacun de ses Régiments un Bataillon d'Infanterie, destiné aux Armées Nationales.

A la fin de 1953, la crise des effectifs passée, on put tirer les

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leçons des premières expériences et les organisations suivantes furent adoptées:

1°) Sous Groupement Blindé: Constitués essentiellement d'un Escadron de chars M 24 (4 Pelotons à 4 chars) et de 3 Escadrons portés sur camions (4 Pelotons et un Peloton d'appui), ils comptaient, en outre, un Escadron porté sur half-tracks (4 Pelotons à 4 half-tracks) et un Peloton de mortiers de 81 mm sur half-tracks; l'ensemble était aux ordres d'un Etat-Major bien doté en moyens de transmissions et capable de recevoir le commandement d'unités d'autres Armes.

2°) Groupement Amphibie: Aux ordres d'un PC mobile et amphibie, il comprenait 2 Etat-Majors de Sous-Groupement permettant l'articulation à la demande des unités suivantes:

- Deux Escadrons de "crabes" (chacun à 33 "crabes" et 3 Pelotons)
- Trois Escadrons à II LVT (dont 3 équipés d'obusiers de 75mm et transportant 3 sections d'infanterie)
- Un Peloton Régimentaire à 6 LVT Obusiers de 75mm.

Au terme de cette évolution, l'ABC retrouvait donc des unités blindées capables de mener un combat efficace à leur compte. Le Viet-minh en fit l'expérience amère à plusieurs reprises jusqu'au cessez-le-feu du 20 Juillet 1954 (Opérations CA, ARGUE, BROUETTE, GÉRFAUT, AUVERGNE)

LE LOI TACTIQUE:

Partagée entre la nécessité d'apporter son soutien aux Bataillons d'Infanterie et le désir de mener sa manœuvre propre avec des moyens regroupés pour agir en puissance, l'ABC a pu, au cours de 9 années d'expérimentations tactiques, dégager quelques principes d'emploi particuliers.

Il s'est avéré que si le Peloton pouvait être temporairement détaché

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au profit de l'Infanterie, l'Escadron était seul capable d'avoir la puissance nécessaire pour engager un combat à son rythme propre face à un ennemi dont l'unité d'emploi normal était le Bataillon. La souplesse indispensable à toute manœuvre était en outre permise par l'articulation quaternaire généralement réalisée au sein des unités; et les évolutions s'effectuant souvent à vue le problème des liaisons était aisé à résoudre.

Le dosage optimum Infanterie-ABC s'est révélé être, dans ce théâtre d'opérations particulier, un Bataillon pour un Escadron. Faute de pouvoir disposer à cette époque d'un blindé chenillé transport de troupes autre que le half-track, la mobilité de l'infanterie portée fut obtenue sur le terrain par la pratique courante du transport des fantassins sur les plates arrières des blindés. La cohésion obtenue au sein des Sous-Groupements et Groupements, où tous les cadres se connaissaient, simplifiait encore liaisons et manœuvres communes entre les chars ou les "Alligators" et leur infanterie organique (dont tous les personnels appartenaient à l'ABC)

Les procédés tactiques utilisés ont varié d'une région à l'autre, en fonction des matériels utilisés et des saisons, en fonction des réactions de l'ennemi et de la personnalité des cadres encouragés en permanence à faire preuve du maximum d'initiatives pour vaincre les difficultés dues au terrain difficile, voire même aux conditions du combat nocturne. Face à un ennemi agissant de préférence la nuit (comme en tout combat de guérilla), les unités de l'ABC ont réussi à plusieurs reprises à intervenir rapidement et brutalement, en terrain connu le plus souvent, infligeant au Viet-Minh des pertes sévères (par exemple, TRIENKE, NVA 10, Juillet 1964)

Commencant la campagne d'Indochine avec des Régiments blindés analogues à ceux qui avaient combattu en Europe pendant la Deuxième Guerre Mondiale, l'ABC¹⁸ terminait en 1954 avec des unités d'une conception très différente, mais adaptée aux conditions particulières du conflit. Au moment du cessez-le-feu cette évolution était encore jugée insuffisante. En dépit des difficultés du terrain, de la dispersion des menaces, et de la nécessité accrue d'accompagner l'Infanterie, le besoin d'unités aptes à remplir vraiment des missions de Cavalerie se faisait de plus en plus sentir.

TERRAIN

In Indochina, where one finds swamps and jungles, cultivated plains and forest-covered plateaus, open hills, and rocky mountains, a large part of the country could not be crossed by any vehicle. Roads and trails, poorly maintained during the war, had been sabotaged by the enemy; rains made them slippery and often untrafficable during the monsoon season. The bridges still intact were not suitable for wide, heavily armed vehicles. (For crossing the Red River in Hanoi, tanks and half tracks had to be loaded on flat cars rolling on the railroad of the Doumer Bridge.)

Nevertheless, with stubborn energy, Armor leaders strived to find best secondary roads and cross-country possibilities. Routes, crossing points and trafficable areas were put into files in every sector according to seasonal variations. At the price of much weariness and effort, the different armored units were able to find again the necessary area for maneuver, even bringing the fight across flooded rice paddies or swamps, according to vehicles employed. Soon, only rugged jungle areas remained impenetrable.

MATERIALS

Landings in 1945 with US vehicles used during World War II (Armored Car M3 - Scout Car M3 - Half Track M3 - Light Tank M5 - Howitzer M3), French Armor equipped its new "regiments" with British vehicles (Armored Car COVENTRY and Scout Car HERRER) or even with out-of-date French armored cars (PANHARD 1939). Their qualities and defects are well known, but French industries destroyed during the war were still unable to provide better. These vehicles were very useful and appreciated for all the

missions dealing with road security and even intervention.

As early as 1948, French Armor, looking eagerly for cross-country mobility, organized its first amphibious units and tested them in the Plain of Reeds. The new materials, Cargo Carrier M99C (nicknamed "Crab") and LVT 4 or 4A (so called "Alligator") were not designed for such an intensive use in muddy areas; the first one was a US cargo vehicle, without armor, to be employed in icy Alaska; the second was an armored personnel carrier used during landings in force in Pacific. The first results were disappointing, but quickly the leaders found suitable tactics and the crews became skillful technicians, while the vehicles received more suitable weapons and armored shields for gunners (on the LVTs were mounted 2 caliber .50 and 2 caliber .30 machineguns and even sometimes an automatic DCFORS 60mm gun).

The possibilities presented by the dense network of rivers and canals, pleaded also for the use of river boats. While the French Navy organized, as early as 1945, its "DIBASSAUT"² composed with LCI, LCM and LCVP, French Armor embarked on lighter boats able to go upstream in narrow and shallow "rachs" at the pursuit of enemy sampans. These boats ran up to 8 meters or 10 meters long armored motor boats, proceeding at 10 knots, equipped with 3 machineguns and a grenade-launcher, handled by 5 crewmen.

The first M-5 tanks were replaced in 1950-51 by M-24 tanks, US-

² DIBASSAUT - Division Navale d'Assault (Division).

built also; their low ground pressure (less than 10 P.S.I) was the most appreciated characteristic - light, fast, reliable, well equipped, this tank could be driven everywhere during the dry season and used even across flooded rice paddies. It was also air transportable, in separate loads, for lack of airfield and aircraft of sufficient size (i.e. 82 loads airlifted by 2 BRISTOL and 3 DC-3 DAKOTA airplanes) so that a company with 10 M-24 tanks was air transported and rebuilt in Dien Bien Phu, and also a platoon with 5 M-24 tanks in Luang-Prabang (Lao).

At last, it must be noticed the creation of one "Regiment" equipped with heavy M-36 tank-destroyers, able to counteract eventually the threat of Chinese Armor in 1952. (Also to prevent that threat in 1951, Marechal de Lattre had ordered the construction of a fortified line around the Tonkin delta). In fact, these tanks, equipped with a 90-mm gun and broad tracks, were used for supporting infantry units.

REMARKS

From the very beginning, the Viet Minh adjusted antitank tactics to oppose French armored units. Mines were largely classed ahead among employed devices, with 85% of damaged or destroyed armored vehicles. Their variety was immense, from the unexploded and locally recovered air bomb to the China-built classic antitank mine; generally the enemy detonated them when armored vehicles passed. Fortunately the tank hulls often resisted the blast, and after some time, the maintenance mechanics were able to repair damages.

Acting as guerrillas, the Viet Minh could not burden its units with

a too heavy antitank armament without taking the risk of a reduced mobility for its battalions. Its portable antitank weapons (75-mm and 57mm recoilless gun - S.K.2,³ - Bazookas) can be credited for a low percentage of destroyed armored vehicles; in fact, often destroyed, after immobilization, by a direct assault led by Viet Minh soldiers carrying explosives, charges or "Molotov Cocktails."

The Viet Minh, requisitioning local civilian manpower, built obstacles on all routes - ditches, walls, barricades, etc...often combined with mines or beehy traps. In Tonkin, for example, many villages were encircled with a 6-foot high earth wall; and sometimes, the access across rice paddies was forbidden by actual antitank ditches running on several hundred meters. Despite the willingness and stamina of the leaders it was often very difficult to pass through and only after excessive and time-wasting efforts. (French Armor had no tank-doors and no AVLB).

The Viet Minh tactics, dealing with antitank defense, mainly laid on ambushes, always with similar planning: to stop the convoy in a narrow or rugged passage, then after an intensive and violent fire-support to launch a quick assault. The best perry obviously consisted of thwarting this ambush, which was difficult to succeed with such a master in concealment as this enemy. Every leader of a surprised unit also had orders for keeping his mobility, at any price. An armored

³ S.K.2. "Sung Khang (hat" (Viet Minh recoilless gun).

vehicle stopped and isolated in an ambush is a blind and harmless prey easy to destroy for a daring enemy. Unfortunately the indispensable and regular missions imposed on Armor units did not always allow them to counteract the Viet Minh assaults nor to avoid bloody misfortunes (convoy of DALAT March 1, 1948).

MISSIONS

After the rapid reconquest of Indochina by mobile columns exploiting along roads, it was necessary to understand that the struggle extended all over the country, often far from the roads; however, these communication lines remained vital for liaisons and supplies, with the lack of airfield facilities and a sufficient number of aircrafts.

Therefore, French Armor had to assume the protection of roads, rivers and, even, railroads. On roads, the integrity of the route had to be checked before the daily or periodical traffic of vehicles or convoys; then it was responsible for the traffic security while patrolling or escorting convoys themselves.

The mission was similar on rivers, especially on the Saigon River, from the part down to the sea. On all important rivers these armored motorboats were employed either in separate platoons (6 boats) or in separate troops (3 platoons) and they were quickly driven up to the smallest tributaries.

On railroads, the main bridges of which were under the protection of small posts, French Armor had to provide crews for armored trains escorting the "Rafales" (wind blast) composed of 2 or 3 trains, following

each other, once a week, on the different sections from Saigon to Nha Trang, from Tourane to Hue and Daug Ha, and from Hai-Phong to Hanoi.

Besides that essential mission, armored units were called for interventions, as fire brigades rushing toward a blazing fire, by day and by night, to help attacked posts or units pinned down in an ambush, the Armored Platoons started to rescue their harassed friends. Such interventions became more and more hazardous because of the Viet Minh who was aware of these reactions, and prevented them attacking far posts in order to ambush intervening platoons.

Infantry battalions also claimed armor support against an enemy who was becoming better trained, and a very close cooperation between Infantry and Armor became the rule; but, dispersion of units along roads, lack of strength and poor cross-country mobility of wheeled vehicles restricted the benefit of such combined operations. Moving at the same speed as foot infantrymen, or assuming unbroken "beaulages" (blocking lines), armored units consumed their potential without any real benefit.

EVOLUTION OF ORGANIZATION

The 2 first "Armored groups" (sous groupements blindés or GB) were organized only in 1951, with their own attached infantry. Under the command of a small armored HQ, these armored groups included one company of M24 tanks (4 sections, with 3 tanks and 2 half tracks) and 2 mechanized infantry companies on half tracks. The effectiveness of that formula was rapidly confirmed during the operations of Hoa Binh (Nov 1951 - Feb 1952) and Phu-To (Oct - Nov 1952).

Simultaneously were created "Reconnaissance Groups" (groupes d'

Escadrons de Reconnaissance or G. E. R.) composed of one M24 tank company, one armored car troop (3 platoons, with 5 M8 armored cars and one platoon with three M8 howitzer) and one or two companies of "suppletifs" (indigenous forces).

It is essential to avoid any confusion between these units pertaining to Armor and the mobile groups (groupements mobiles or G.M.) which were created at the same period and were composed of 3 infantry battalions (mounted on trucks), supported by one towed artillery group (105-mm) and by one platoon of three M24 tanks (aided by one tank company, such as the DM 100, for example.)

At the same time amphibious units were more and more employed⁴. Two groups, each composed of two companies of "crabs" were created, soon reinforced by two "alligators" platoons carrying one company of "suppletifs" and able to operate where the "crabs" were stopped by the impenetrable terrain or the enemy fire. They were intensively and successfully employed in the Plain of Reeds and in the area around Nam Dinh (Tonkin).

The organization of these armored and amphibious groups allowed French Armor to regain its own momentum. However, very often it was still necessary to attach an infantry battalion to these units, because of the proportion of personnel that did not permit enough dismounted soldiers to search villages. In fact, it was impossible to request more officers and enlisted men from Armor. By this time, under the impulse of Marechal de Lattre, the young Vietnamese, Laotian and

⁴1er Regiment de Chasseurs et 1er Regiment Etranger de Cavalerie

Cambodian armies had begun their build up. French Armor which used many locally enlisted crewmen since 1948 (often, more than 50%) had not only to train the first five Armored Vietnamese troops (and the Laotian and Cambodian troops) but to create one infantry battalion for the national armies from each of its Regiments. At the end of 1948, after that crisis of personnel and the first lessons of those experiments, the following structures were adopted:

1. Armored Group - Mainly composed of one (24) tank company (4 platoons with 4 tanks) and 3 companies of truck mounted infantry (4 platoons plus one support platoon). They also had one mechanized infantry company (4 platoons with 4 half tracks) and one 81-mm mortar platoon, mounted on half tracks. This unit was under the command of a HQ well provided with communications means and able to control several attached units.

2. Amphibious Groups - With an amphibious mobile HQ, it included 2 HQ for Sub Groups permitting the "tailoring" of the following units:

-2 "crabs" companies (each with 33 "crabs" and 3 platoons).

-3 "alligators" troops (each with 11 LVTs, 3 of them with 75-mm howitzer, and carrying 3 infantry platoons).

-1 regimental support platoon with 6 75-mm howitzer - LVTs.

At the end of that evolution, French Armor recovered armored units able to engage by themselves the enemy with effectiveness. The Viet Minh had many bitter experiences (Casargus, Louette, Gerfaut, Auvergne operations), and on July 20, 1954, at the cease fire time there were 4 armored groups and 2 amphibious groups (plus 3 G. I. R. and 6 other

armored "regiments."

TACTICAL EMPLOYMENT

Split between the necessity of supporting infantry and the desire of its own maneuver with all its means concentrated in a strike force, French Armor during 9 years on the battlefields has had many opportunities of reaching some particular tactical conclusions.

If the tank platoon could be temporarily attached to some infantry units, the troop was only able to have the necessary firepower and mobility to lead the fight at its own momentum facing a battalion strength enemy. The indispensable flexibility for maneuver was easier with the quaternary articulation within the unit; and the changing of combat formations was often achieved in direct sight without any problems of communications between those well trained crews.

The best Infantry Armor proportion has been revealed to be, in that particular operation theater, one infantry battalion for one tank company. By the lack of available A.P.C. except half tracks, the mobility for infantry was obtained in the field by the transport of infantrymen on the rear deck of tanks. The cohesion obtained within armored or amphibious groups was excellent, because of the origin of the personnel, all from Armor without any problem of unity of command, there were no more problems for communication or for coordinated and quick maneuvers.

The various tactics used in different regions have been fitted to the different materials and to the seasonal changes of weather. They have varied also according to the enemy and the personalities of leaders, so

even frequent to see armored units in night fighting. Opposed to an enemy acting by night, which is a permanent characteristic of insurgency warfare, French armored units became well trained for quick and violent night interventions and several times under favorable occasions the Viet Minh were severely defeated; for example, Thien-Ko Tonkin July 18, 1954⁶.

Beginning the Indochina campaign with armored regiments similar to those which had fought in Europe during World War II, French armor reached 1954 with units organized on very different concepts, but suitable for those particular conditions. When the cease fire was implemented, that evolution was still considered as insufficient. Despite terrain, various threats, and increasingly necessary support for infantry, the need for units fitted for the missions of cavalry was generally felt by everybody.

French Liaison Officer
USA Armor Center
Fort Knox, Ky. 40121

C H A P T E R I I

THE MAQUIS

In the vast territories that fell into the hands of the Viet-Minh as early as 1945 and in which we could never regain foothold, save on the occasion of an episodic raid (1), the creation of a maquis seemed at first possible as the terrain was eminently favorable: accentuated relief, dense vegetation often taking on the air of an inextricable jungle.

The appearance of the maquis, however, came rather late for ethnical reasons.

The success of the Viet-Minh approach near the Annamite populations and the ineffectiveness of our political action, left no hope of provoking any armed opposition against our adversaries in the regions with a population of high Vietnamese density. Our incapacity to interdict the slow decay of the Tonkinese Delta constitutes the best proof of this.

The only element which could still serve our cause was the racial repulsion which the Montagnard populations and certain ethnical minorities nurtured for the Annamites of the Delta or the coastal regions. (2)

In the zones with Thai populations, in those with the Meos or the Mans, the Annamite was the enemy, but it was difficult to arouse a hostile movement, all the more so a rebellion, as long as the Viet-Minh did not operate in the High Region of the North-West, that is before 1950. (3)

- (1) For example: TUYEN QUANG, during the 1949 march, or PHU DOAN, during the LORRAINE operation in 1952.
- (2) Due to this natural opposition, the Central Vietnam Plateaux enjoyed a long peace, and due to the existence of the NUNGS, the coastal stretch from HONGAY to MONCAY was proof against Viet-Minh infiltrations.
- (3) The Viet-Minh armed forces penetration in the High Region is not the least proof of their adaptability and their training capability as well as their High Command's will, for it was well known that the "Vietnamese loathes the mountains and the forests and cannot live there."

What have been the results obtained by our maquis?

First, the immobilization of a number of Viet Minh Battalions can be attributed to them. In January 1954, 4 V.M. Battalions were employed for the repression of the maquis in the LAICHAU region. At the end of April 1954, there were 8 of them; in addition other battalions were immobilized to guard bases which our partisans kept under threat of an attack.

Moreover, we have often been able to rescue the survivors certain isolated posts which had been attacked thanks to the presence of various maquis elements.(1)

Secondly, the maquis brought an uneasiness among the enemy elements and kept it alive. The V.M. political cadres considered their action as "one of the greatest schemes to undermine the V.M. establishment."

However, it seems this uneasiness prevailed mostly among the lower echelons and the isolated units: At one time, the V.M. High Command did not seem a bit disturbed by the actions of our Maquis. Some of them achieved some brilliant successes: For example the COC LEU-LAOKAY attack, on October 3, 1953.(2)

During the battle of DIEN BIEN PHU, however, the maquis met with total failure in their attempt to intervene against the V.M. communications facilities linking the PHUTO area and TANH HOA to DIEN BIEN PHU, while covering a 400 to 500 kilometers distance over forests and mountains. A common section, CONOI-DIEN BIEN PHU, 200 kilometers long, in particular, was never seriously harassed.

This low output of the maquis, which numbered 15,000 men at the end of the war, can be justified by numerous considerations.

-
- (1) Such as the Mee maquis of the XIENG KHOUANG region which permitted to round up many scattered groups of the SAM NEUA column whose withdrawal was almost tragic.
 - (2) An expansion of our maquis was set for October 1953 in the BAXAT, BINHLU, CHAPA, THA UYEN regions. To make it easier, it had seemed necessary to make a diversion on a plausible and distant enough objective on which the adversary hung seriously: The double agglomeration of COC-LEU-LAOKAY was chosen. Six hundred partisans attacked COC LEU on October 3 with the support of the Aviation and one Paratroop Commando from the Tonkinese Delta. During several attacks, the partisans penetrated in the town and, supported by bombers, inflicted an estimated 150 killed and wounded casualties to the V.M.

At first, the effectiveness of the maquis was doubted for a long time. "The G.M.I. (1), according to one of this organization's reports, had difficult beginnings, quite often plagued by the High Command's hostility at the Zone or Territory echelons, with which our elements were closely related".

This lack of faith could be justified, for: "We had no ideology or xenophobia to inculcate, like the adversary. We had no politico-social system to propound".

"We were not sure to return to CAO BANG or VINH".

"We did not know whether there was a positive relationship between the obtained results and the reprisals which, sooner or later, the action of our maquis would bring on the foolhardy and the followers".

But most of all, this mistrust illustrated the scepticism of our cadres, for the most part, towards all unorthodox forms of the war.

In short, the struggle of the rears was started too late. It was only in 1951 that the Airborne Joint Commando Groups (G.C.M.A.) were able to perform an action. But by that time the Viet Minh hold extended already on vast areas. It could no longer be hoped to create a powerful organization and the difficulties we have met are obvious demonstrations that we must precede the enemy in the regions where he has not yet infiltrated.

Any zone held to be secure can some day become the theatre of battles. We must therefore prepare for this possibility so as not to meet with insurmountable difficulties later and the efforts must be concentrated on the creation of armed cells, the assignment of intelligence agents, the establishment of channels (2), finally the training of the required cadres.

The creation of the maquis was later slowed down by the shortage of officers who were familiar with the ethnical and geographical characteristics of favorable areas, and, a fortiori, spoke the Montagnard dialects. Here again, the absence of a Corps of Indigenous Affairs was cruelly felt.

(1) The Joint Intervention Group (G.M.I.) was created on December 1st, 1953 with a view to conduct the fight on the rears. It replaced the Airborne Joint Commando Groups (G.C.M.A.).

(2) The setting up of weapons, ammunition, etc.. could not be achieved until the uprising starts.

Finally, native cadres had to be organized and instructors were required to train the guerilla. A School was created at Cape Satin-Jacques, but it only began to function in June 1951.

The G.M.I. equally suffered from a poor relationship with the similar organizations in FRANCE and only obtained insufficient help.

As it had been difficult to organize the G.M.I., it initially lacked means. The effort later furnished on its behalf was considerable, particularly in the field of aviation. At the end of hostilities, actually, the following was granted as assistance to the maquis:

- 1,500 DAKOTA hours.
- 300 reconnaissance plane hours.
- numerous B-26 missions.
- air-drops of 300 tons of supplies and ammunition.

LESSONS from the WAR in INDOCHINA

Study of the Staff of the French Expeditionary Force in
INDOCHINA - May 31 - 1954

(Section II - Part III - Chapter II)

THE MAQUIS

On the large areas which were seized by the VIET MINH since 1945 and which could not be taken back except sometimes for a short raid⁽¹⁾, the creation of maquis seemed theoretically possible because of the very favorable terrain: rough ground features, dense vegetation looking like jungles, ~~however~~ However the beginning of these maquis occurred largely for ethnic reasons.

The success of VM then with the Annamese populations and the poor results of some political actions did not give any hope of provoking an armed opposition against our administrations in the regions with a high density of Vietnamese. The last part of that was the slow decomposition of the Tonkinese Delta.

The main factor which could help over fighting was the racial repugnance of the mountainous populations and of some ethnic minorities⁽²⁾ for the Annamese of the Delta.

(1) For example TUYEN QUANG during the operations of 1947, or PHU-DUONG during the operation "LOK 705" in 1952.

(2) Such as the NUNG along the coast from HONG AY to MONCAY.

In the areas inhabited by the THAI (MEO or MAN) the Annamites was an enemy, but it was difficult to provoke any hostile movement, or any revolt, until the V.M. would not begin operations in the North West Highlands - i.e. before 1950. (1)

RESULTS OBTAINED BY THE MAQUIS

At first, they obliged the VM High Command to let some battalions in the rear areas for static missions or counter-guerrilla fightings. In January 1954, 4 VM Battalions were stationed around LAI-CHAU for ~~that~~ ^{that} purpose; in April 1958, they were reinforced by 4 other Battalions. Moreover several VM units had to protect the important VM supply bases in the North West of the TONKIN.

The existence of these maquis also allowed the escape of the remnants from separate posts after an attack by the VM Forces (The MEO maquis near XIENG-KHOUANG received many ~~scattered~~ squads with training from SAM-NEUA in 1953)

Then the maquis worried the VM cadres. Their operations were presented by some VM political cadres as "one of the most important machinations to undermine the VM edifice". However, it seems that this inquietude was mainly the fact of some low-level cadres or of some separate units. Never the VM High Command looked very disturbed by the actions of our maquis. Yet some of them were very efficient: by example the attack of

(1) By the way, this VM fortification in the Highlands seemed almost inevitable for many, since it was well known that "the Vietnamese hate the mountains and forests and are unable to live there."

LOC-LEU LAO-KHY October 3, 1953 by
600 guerrillas supported by Air Force and one parachute
Commando dropped for that occasion. About 150 casualties
were inflicted to the VM soldiers, and during
this diversion we began to organize some
new maquis around BAXAT, BINH LU, CHAPA,
THAN UYEN.

On the contrary during the battle of DIEN BIEN
PHU, the maquis were unable to launch successful
attacks against the VM convoys on the roads
connecting PHU TO or THANH HOA to DIEN BIEN
PHU, 400 or 500 kilometers across mountains
and forests. Particularly the CONOI-DIEN BIEN
PHU road, 200 kilometers long, was never
seriously harassed.

CAUSES OF THAT INSUCCESS:

Although there were about 15,000 guerrillas
at the end of the conflict, the results were
generally poor. It is easy to find several reasons
to explain that:

1/ At first, for a long time the efficiency of
maquis was doubtful. In an official report
from the G.M.I. (1) it is said: "The G.M.I. has had
a difficult start, often characterized with the
animosity of the Territorial Command with
whom our elements had very close relations."

This lack of confidence could be explained
easily, for: "We had not, like our adversary

(1) The G.M.I. (Groupe Mixte d'Intervention - Composite
Intervention Group) was created on the 1st of December 1953 to
fight in the rear of the enemy. It was the replacement of
G.C.M.A. (Groupe de Commandos Mixtes d'Action - Composite Command
Group)

any ideology or xenophobia to preach. We had no socio-political program to propose.

We were not sure to come back to CAO BANG or VINH - We did not know if there would be a positive balance, between the results obtained and the reprisals that, soon or later, the actions of our maquis could provoke against the imprudent or thrustful populations."

But mainly, this lack of confidence showed the scepticism of most of our officers toward all the non-orthodox forms of warfare.

2/ Shortly, rear area fightings began too late. This was only in 1951 that the G.C.M. 4 could begin an action. But in that time, the VM was already controlling large areas. Such a new organization was hopeless and the troubles encountered later showed clearly the necessity of preceding the enemy in the selected areas prior to his infiltration.

Every zone, known as safe, can be used as a future zone for guerrilla. Therefore that eventuality must be prepared in order to avoid insurmountable difficulties later, and the main effort has to be made for the organization of armed cells, the appointment of informants, the creation of nets, the instruction available cadres.

3/ The creation of maquis was slowed down by the lack of officers having a sufficient knowledge of propitious areas, and, moreover speaking mountainous languages. There again

(1) Armament, ammunition, etc. - are to be delivered only at the beginning of the insurrection.

we felt very badly about the absence of an "CORPS des AFFAIRES INDIGENES" (1)

4/ At last, we had to teach indigenous cadres and for that we needed available instructors of guerrilla warfare. We had created a school at CAP ST JACQUES (VUN THAU) but it was opened only in 1951

The G.M.I. also suffered with bad liaisons with similar organisms of France, which helped it insufficiently.

Difficult to start, the G.M.I. was initially very short of means - later the support was extensive, particularly the air transport. At the end of the war we decided for the magnis, every month:

- 1500 hours of DC.3
- 300 hours of reconnaissance aircraft
- Many striking missions of B-26
- Air transport and drop of 300 Tons of rations and ammunition.

(1) Indigenous Affairs Corps = Organization built by the French Army for civilian administration in M.P.O.C.O.

CHAPTER V

French Liaison Officer
USA Armor Center
Fort Knox, Ky. 40121

ARMORED FORCES - CAVALRY

Initially carbon copies of their sisters of the Metropolis, the A.F.C. formations in Indochina were to become of many and varied types during the nine years of operation, according to the arrival of material (the armored, amphibious, working vehicles).

However, at the end of hostilities, most of the units were still furnished with standard machines, inherited from the campaigns of France and Germany. So, they had a structure inspired from that of European tactical groups.

Their utilization did not produce any unusual teaching. The amphibious units, on the other hand, found in Indochina a fruitful field of experience which allowed them to create a utilization doctrine.

The Armored Forces, initially tied to a material it had not chosen, slowed down by the shortage of adequate vehicles and often by the inferiority of the maintenance services, had to overcome difficulties which were particular to them.

As seen from the "armor", the Indochinese terrain is characterized by wide spaces, totally practiceable for the usual military vehicles and rarely accessible to tanks, transpierced by narrow and few roads. The adaptation of the road network would have made the task of the A.F.C. easier, but it was still incomplete at the end of the war.

In particular, the deltas offered extremely variable possibilities according to the place and the season.

A Tank Squadron Leader deplored that practicability maps for the armor

British Terminology = Tank Company C.O. (U.S. Army)

had not been prepared and wrote: "The system of the seasons in the Tonkin is almost regular. It is therefore feasible to establish a 'terrain' map which would be perfectly marked month by month, would include accurate indications as to the routes, the practicable zones and compulsory points of passage." (1)

In fact the armored forces lacked ways and free space most of the time, for no "all terrain" material in the European sense of the word proved to be such in Indochina. (2) Moreover, the heat and humidity rendered the combat in armor, with closed flaps, particularly painful.

In addition, the armored forces, like the others, suffered from a shortage of troops, and local recruiting was resorted to. But, due to his small size and his lack of muscular strength, the indigenous element was often unfit to conduct heavy machines. So a Commanding Officer proposed an increase of the Legion's units to offset the absence of qualified personnel.

"The Cavalry material is always fragile and somewhat delicate, the training of personnel is long and costly; if a branch should include career soldiers, this is the one. The Legionnaire is particularly well qualified to find his place in it. It seems therefore that the Cavalry should have a very important place among the Foreign Legion Units". (3)

Due to this maze of difficulties, all the efforts of adaptation of the A.F.C. could only bear upon certain combat procedures and the internal organization of Units.

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- (1) Captain X.... Tank Squadron Leader.
 - (2) The performance of the material will be discussed in Volume III.
 - (3) But precisely the contrary prevails; the percentage of Cavalry Units in the Legion is less than the average obtained in the Battle Formation (two Foreign Cavalry Regiments for six Foreign Infantry Regiments). Lieutenant-Colonel X... Sub-Group Commander.

UTILIZATION

Under various aspects the Armored Forces found again the traditional missions of the Cavalry:

- Scouting for the Infantry, marching or stationing.
- Reconnaissance (clearing of roads, reconnaissance of villages, liaison with isolated posts).
- Escorting (protection of convoys and guarding the routes).
- Combat in conjunction with the Infantry (participation in the "encirclement" and the attack, as well as the counter-attacks and the cover of withdrawals).
- Pursuits and raids; although rare and of little importance.

The achievement of these missions, in the face of an enemy who excelled in the ambush combat and did not hesitate to launch an attack on tanks, require a large auxiliary Infantry.

"In the Deltas, swallows of troops on foot on account of their big villages impervious to tanks, as well as the jungle in the highland, the A.F.C. units had to be well provided with portative facilities to sustain, support or extend the action of the Armored elements". (1)

But due to the shortage of troops, the Command balked for a long time at the assignment of a true Infantry to the Armored Regiments as it would have been unemployed during the periods of maintenance and conditioning of the machines and their crews.

So, the Infantry units destined to work in cooperation with the Armor were frequently renewed, while remaining true to the wise but necessary slowness of the traditional maneuver of their Arm. The cohesives of these temporary groups thus formed suffered, as did the flexibility and rapidity of actions.

(1) Lieutenant-Colonel X.... Armored Sub-Group Commander.

"Actually, most of the time, once it was launched, the action took the rather slow pace of the infantryman's maneuver and took on the classical form adopted since 1918 of the Infantry combat supported by tanks". (1)

More and more the monotony of the operations, constantly executed over on identical ground, the long waiting periods along communication routes to guard, the dispersion of threats, have too often influenced the Command towards routine. In addition, they have encouraged the static use and fragmentation of the Armored Units.

This fragmentation, in particular, was often pushed to the extreme, due to the shortage of facilities, on the one hand, and to the requests from territorial commanders at all levels, on the other hand.

This situation naturally reduced the efficiency of the units and brought about their rapid attrition, as the Regiment or Squadron services were not organized adequately to support dependent elements so widely scattered. (2)

It would, however, "have been normal to expect much more from the service which, with the aid of the motor, joins mobility to power; the Service of Reconnaissance and swift engagement, of pursuit as well as counter-attack; in other words: the Cavalry...." (1)

But, it was not until 1951 that the first experience in using the Armored Sub-Groups, with their own Infantry, was tried.

Until then, "the Armored Squadrons had rendered excellent services but had only obtained sporadic results, because they were organized like reservoirs of armored machines rather than like units capable of engaging combat alone". (1)

In the last part of the campaign, the A.F.C. included:

- Armored Sub-Groups (and amphibious groups) capable of engaging in combat

(1) Lieutenant-Colonel X.... Commanding an Armored Sub-Group
 (2) It has been ascertained, as if this were still necessary, that the smallest unit with the capability to live independently was the squadron.

alone and constituting implements of maneuver.

- Units capable of temporarily backing up certain Infantry units or meeting the normal requirements of territorial authorities. (1)

This organization, however, should have been supplemented by the creation of a Command element for the A.F.C. within each Territorial Command. Many difficulties would have been ironed out.

ORGANIZATION OF THE SUB-GROUPS

These Sub-Groups, organized towards the end of 1953, were essentially composed of a Squadron of M.24 tanks and three Squadrons borne by the G.M.C.

In addition, they included one half-track borne Squadron, a Mortar Platoon and a Staff adequately provided with communications facilities, which permitted it to absorb reinforcement elements (Engineers (2), Infantry Battalions, etc.).

"The high proportion of elements on foot, of an element the size of one Battalion for one Tank Squadron, gave the Armored Sub-Group its character of a well-balanced flexible and powerful Intervention element". (3)

The M.24 tank Squadron moved about easily in dry rice fields and sometimes even in flooded rice fields. On the other hand, the tanks could, in exceptional circumstances, penetrate inside the villages due to the numerous water lines and covers. In addition, the guns' trajectory tension was such that instantaneous fuse projectiles burst on contact with the first bamboo hedge.

Lastly, the combatants were unanimous in deploring the fact that the transport vehicles of borne support elements were not on the same footing as

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- (1) While in North Vietnam the Armored Units were part of the general reserve and could be temporarily made available to a Sector Commander, units specifically assigned to Territorial Commands existed in the other territories.
 - (2) It should be noted that no dozer tanks were in Indochina. The presence of a bulldozer with its trailer-tractor constituted a heavy burden for the Sub-Group, if and when it had one.
 - (3) Teachings of the war of Indochina relating to the Armored Forces written by the Inspection Services of the A.F.C.

the tanks, which would have made it possible to provide for supplies and evacuations.

The organization of the tank Squadron in accordance with the Quaternary Rule (1) was perfectly in keeping with the requirements of a war without a front, in which the notion of directing an attack was often undetermined. Moreover, the four tank platoon retained very satisfactory maneuver capabilities, as the splitting up into two patrols was unusual and was always executed on the spur of the moment.

It would have been advisable to provide these platoons with self-propelling sweep missile fire. So the users have advocated the creation of a Howitzer platoon at the Sub-Group level, to replace the Mortars platoon. (2)

The combats engaged at DIEN BIEN PHU by the March Squadron of the 1st Light Infantry reminded us of the light tank units' vulnerability under artillery fire and of the difficulties to supply in ammunition under fire.

"Subjected to dense artillery fire, the Squadron suffered during the supply and maintenance operations losses nearly equaling those due to combat, in spite of the digging of tank pits.

"When engaged only against Infantry units, the tanks rapidly exhausted the ammunition of their magazines".

The need for palliatives became quickly imperative: transport of ammunition outside the tanks and on the floors, assignment of one tank per platoon to the supply. But the only satisfactory solution would have been to assign a supply armored vehicle to each platoon.

The borne squadrons (on G.M.C. or half-tracks) had been put, like the Infantry Companies, under the quaternary rule: Four combat platoons

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- (1) The tables of organization provided for three 5-tank platoons and 2 Command tanks, but the adopted organization has been almost always: Four 4-tank platoons and only one Command tank (although a second one would have been quite often desirable).
 - (2) Solution advocated by the A.F.C. in his report on the teachings of the campaign.

(38 men and 2 F.M.) and one heavy platoon (2 light machine guns and 2 60 m/m mortars).

The structure of this last platoon is questionable, as its armament was not a supplement to that of the tanks. Therefore, the A.F.C. Inspection Service advocated at the end of 1954 the procurement of one 58 SR gun and two 60 m/m or 81 m/m guns (depending on whether the personnel was being borne by G.M.C. or half-track). (1)

The half-track borne squadron constituted a slow, cumbersome grouping which lacked mobility, and the demands imposed upon by the watch of the vehicles reduced the combat force to about a hundred men.

However, thanks to its considerable firepower (36 machine guns and F.M. procured from three fire units), this squadron proved capable of accomplishing the missions of route-watching, liaison and escort, and depending on the condition of the terrain, of fixing. But, even in such cases, its inability to depart from the routes was a great handicap.

The Command and Sub-Group Services Squadron was torn between two missions: to guard the rear base and escort the C.P. in operation. Its task would have been facilitated by a splitting up into two elements each having a chief (2): a base element and a combat element.

In addition, the protection platoon (3) responsible for liaison escort and C.P. watch missions was obviously not adequate (4).

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- (1) The inspection also pointed out the fact that the adoption of the quaternary rule should have been supplemented by arranging for the procurement of radio equipment for the squadron (seven ANPRC-10 posts instead of five).
In addition, the guarding of G.M.C. borne squadron vehicles would have been more efficient with the procurement of an additional automatic-rifle (10 F.M. instead of 9).
- (2) Some cadres even requested that two separate squadrons be created.
- (3) Two half-tracks.
- (4) The A.F.C. Inspection required that the platoon include 3 sub-machine guns and three scout-cars.

AMPHIBIOUS GROUPS

Using equipment of which part had been conceived with Alaska polar expeditions in mind (the crabs) and the others derived from a lifesaving vehicle utilized in the flooded Mississippi area (the alligators) (1), the Amphibious groups proved in Indochina their special fitness to combat in flooded areas, that is in the Deltas or the coasts.

Their development gave rise to numerous experiments which were not all successful and the first engagements resulted in failure even.

Initially, the crabs alone were used. "Being limited in number and entrusted to an insufficiently qualified personnel, their burned out skeletons quickly littered the 'Plaine des Joncs'". (2)

In 1948, however, a group of amphibious squadrons (with two crabs squadrons each) was created in South Vietnam (3). So the crabs were used in units completely formed; they were put in the hands of trained personnel, assisted by adequate repair facilities, and "they went over the 'Plaine des Joncs' in all directions throwing panic in the enemy ranks". (2)

The results were so encouraging that two new squadrons were created in Cochinchina and Tonkin. (4)

"But the problem of support of the Infantry was quickly presented. The squadrons had remote reconnaissance missions and the standard Infantry could not follow or followed slowly". (2)

The assignment of one Infantry Section to each squadron did not give the anticipated results. The troops transported in such a fashion were not sufficient and the considerable weighing down of the vehicles made them lose their mobility

(1) The exact name of the crabs was Cargo Carrier:29C. The Alligators: LVT4 or 4A.

(2) Note from the F.T.S.V. Commander on Amphibious Units.

(3) Under the 1st Foreign Cavalry Regiment.

(4) Under the 1st Foreign Cavalry Regiment and the 1st Light Infantry Regiment.

capabilities.

Thus was conceived the use of new machines: Alligators which were first distributed at the rate of one platoon (carrying an indigenous Commando group) per Crabs squadron.

This formula proved satisfactory and was extended. Thus were born the Amphibious Sub-Group and Group.

In 1954 the latter included:

- Two Crabs squadrons as elements of scouting, fixing and pursuit.
- Three L.V.T. Squadrons as the shock element.
- One Regimental Platoon of six Howitzer L.V.T. constituted a battery in support of the complex.

Two Sub-Group Staffs well equipped with communications facilities provided for all articulations on request.

The group derived its superiority, not only from its independence concerning the road network, but its firepower which was equal to that of a metropolitan armored group.

The large number of troops that could be engaged on foot (3 companies of 130 men), its perfect autonomy (3 days of combat) and the abundance of its communications made a particularly well suited group for deep penetrations into insecure zones.

However, its weakness lay in the fragility of its equipment which prohibited any halts on roads (1) and required frequent periods of maintenance. (2)

The CRABS SQUADRON organically included 33 Crabs split into three platoons. Its great fluidity, the noiseless nature of its vehicles, its considerable firepower (30 machine guns or automatic rifles, six 57SR guns, three 60 m/m mortars),

(1) The Crabs had to be transported on G.M.C. trucks and the Alligators on tank-trailers, unless the equipment was loaded on barges.

(2) Thanks to the "acrobatics" executed by the Groups personnel, the Groups have not been unavailable more than 2 days out of 2. (Lieutenant-Colonel X.... Commanding an Amphibious Group).

compensated for the inconveniences that resulted from its lack of armor and made of it the essential element of surprise. So that a Commanding Officer observed:

"A piece of equipment without armor that no obstacle can stop is more efficient than an armored vehicle with a limited mobility".

The L.V.T. Squadron was split into three combat platoons and one support platoon.

"With its 11 pieces (thirty-six 30 and 50 machine guns and three 75 Howitzers) and its three borne Infantry sections, it constituted alone one Sub-Group". (1)

Thus it could be written of this Squadron:

"It is the only known unit to combine an Infantry Company, its own transport facilities and escort tanks. Nowhere is the Infantry Tank liaison is accomplished in such an intimate, permanent manner".

"Only the L.V.T. squadrons and the Howitzer platoon can participate in the conquest of the first beachhead in landing operation". (2)

Two commanding officers have suggested an unusual combat method:

"The ideal form of maneuver would be to be able to join the Group by air-dropped or helicopter-borne Infantry once the enemy has been localized and fixed". (3)

The same process could be applied to the borne elements of the Armored Sub-Groups:

"In a really difficult terrain, the helicopter is the ideal means of transport since it brushes off obstacles and doesn't fear mines. One might think that the borne squadrons would be used to the utilization of such machines which would be adapted at the time of need". (4)

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- (1) Lieutenant-Colonel X.... Group Commander.
 - (2) Lieutenant-Colonel X.... Group Commander.
 - (3) Lieutenant-Colonel Y.... Group Commander.
 - (4) Lieutenant-Colonel Z.... Armored Sub-Group Commander.

The Amphibious Groups have been utilized advantageously at night, as a Group Commander stated:

"We have seen at night, in a bright moonlight, within a few minutes, one single Crab Squadron inflict on the enemy, engaged in open terrain, losses estimated at 500 to 600 killed or wounded (120 bodies were left on the terrain)."

Another Commanding Officer added:

"As difficult as it was, in rice fields, to maintain a fixation at night, it has been noted that if it was effectively held, the regular Viet units lost courage and accepted the next day either total destruction (many times) or surrender (Tho-Lao, May 17th, 1952)".

In all cases, the most important thing is to avoid the involvement of an Amphibious Group in a terrain for which it isn't suited. This is a delicate matter which requires a great deal of experience on the part of the Chiefs, for terrain favorable to the crabs are not always so for the alligators and vice versa. The form of maneuver can be affected by this and, when the participation of amphibious elements is being planned for an operation, it is imperative that the Commander of these elements be consulted as early as the preparatory phase.

Generally, it must be admitted that very few have been the Territory, Zone or Operation Commanders who utilized the Amphibious Groups adequately and gave up the idea of considering them simply as aquatic escort tanks.

These elements give their best results when only cavalry missions are assigned to them.

A.F.C. RIVER UNITS (1)

They also answered to the preoccupation of making maximum use of the existing movement capabilities.

Having been equipped during the campaign with a great variety of boats, armored or not, they possessed at the end of hostilities practically nothing but

(1) See chapter devoted to River Operations.

8 to 11 meters launches.

They had, on water, missions comparable to those of the land units along the roads (clearing, escort, liaison, supply of posts, fixing, etc.).

One unit commander pointed out that their participation had been of some importance in the pacification:

"Night activities were intensified, which had the result that the Viets were forced to watch around the clock. This climate of insecurity contributed to many rallyings". (1)

RECONNAISSANCE SQUADRON GROUPS

Organically, they were composed of one M.24 Tank Squadron and a Staff of Squadron Groups (2) to which were adapted, for a given operation, some Infantry elements of the size of a Battalion generally. This unit could be put at the disposal of the sectors in order to meet the needs of surface control.

RECONNAISSANCE UNITS (A.M.)

Generally utilized by platoons, or by squadrons at most for the territorial commanders, these elements mainly undertook road-clearing, escort, road guard and C.P. missions.

Their daily use had condemned, once more, the utilization of patrols composed of different elements: light armored cars and half-tracks. In addition, it reaffirmed the usefulness of carried support elements and of an auxiliary group (75 m/m automotor) within a platoon itself. (3)

On the other hand, some of them would have liked to see an increase of the borne facilities and envisaged squadrons with two light armored car platoons and two borne platoons. (4)

While appreciating the services rendered by their obsolete equipment,

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- (1) Lieutenant X.... Commanding a Launch Squadron
 - (2) In addition it could include 1 or 2 organic suppletive companies that were used to operate with the tanks.
 - (3) Often, a company of Suppletives was assigned to a light armored car squadron proper.
 - (4) Articulation of the platoon into three patrols of 2 vehicles proved quite satisfactory.

the users, naturally, deplored its lack of adaptation to the terrain of many aspects, the absence of reversing device, the mediocrity of the gun... and many wished that the E.B.R. might be introduced first in Indochina.

THE M.36 TANK-DESTROYER REGIMENT (1)

This regiment was created at the end of 1953 as the answer to the possible appearance of Chinese Armored elements. But it was generally split into platoons and rarely into squadrons (2) in order to satisfy the requirements of Territorial Commanders.

The M.36 equipment proved of a maneuverability in any kind of terrain equal to that of the M.24 tanks and its 90 gun applied much more efficient fire, in particular for attacks of fortified villages and for movements of troops up to 3,000 or 4,000 meters.

The afore-mentioned remarks concerning the M.24 Tank Squadron are fully applicable to the M.36 Tank-Destroyer Squadron.

ARMORED ELEMENTS AIR-TRANSPORT

The necessity to bring armored elements in places distant from any road led the Command to plan for air-transport.

The problem fatally presented many difficulties since the existing equipment had not been considered with their transportation by plane in mind. (3) Thus the use of air facilities was extremely limited.

However, our few experiences in this field have proven the advantages of this formula, for a country like France with responsibilities spreading over five continents.

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- (1) The T.D. (tank-destroyers) were transformed by the addition of a turret roof and a conning-tower machine gun; the radio equipment was also modified.
 - (2) Four T.D. Squadrons, distributed over the whole Tonkinese Delta area, were supported only with great difficulty by the Regiment's services, as the latter did not have the escort and liaison equipment permitting to put its logistics facilities into use.
 - (3) The example of the air-transport of the M.24 tank is particularly striking. After being dismantled, this piece was divided into 82 packages of which the heaviest, the case, weighed 4,600 kilos. Two Bristols and five Dakotas were required for its transportation.

Small armored detachments air-transported to LAOS rendered great services there (1) and the action of the 1st R.C.C. Marching Squadron (2) taken to DIEN BIEN PHU was particularly convincing.

"This Squadron allowed, in the preparatory phase, the Command to be constantly informed on the free space that existed between our positions and the first enemy organizations."

Afterwards, "the tanks became the storm force of any action". (3)

But, the air-transport of armored units naturally creates the problem of transporting by air the maintenance facilities and supplies, the weight of which, being considerable, rapidly exceeds that of the equipment itself. (4)

Thanks to the efforts made in the logistics field, the Squadron of DIEN BIEN PHU still included on May 7th, six available tanks, two immobilized tanks (utilized in fixed blockhouses) and one out of action. Only one was destroyed. (5)

- (1) A five M.24 tank platoon at LUANG-PRABANG, a three M5-M8 tank squadron in the Plaine des Jarres.
- (2) This Squadron included 3 M.24 tank platoons and one Command tank. One of the platoons emplaced in the "ISABELLE" resistance center was quickly cut off from the rest of the Squadron.
- (3) Report on the action of the M.24 tanks in the battle of DIEN BIEN PHU.
- (4) For example, more than 200,000 rounds of 75 gun were fired from December 7 to May 7; which represents approximately eight times the tanks' weight.
- (5) All tanks, with no exception, were sabotaged by the crews on May 7. The optic, the collective armament, the radio were smashed or thrown into the water, the gun breeches dismounted and buried, the main of the tubes damaged with incendiary grenades. The panels, delcos, carburators, filters, were smashed with sledge-hammers. In addition several grenades exploded in the motor compartments. The participation of a tank in the Victory Parade organized by the enemy was only possible by assembling the necessary pieces taken from all the tanks to put one single motor temporarily together. The turret and the armament were sabotaged. These tanks were absolutely unfit for combat. (Report on M.24 tanks at the battle of DIEN BIEN PHU.)

THE ANTI-TANK STRUGGLE

The anti-tank struggle in Indochina "proved that, even in the absence of standard anti-tank weapons, with rudimentary means and particularly by using mines and explosives, it is possible to obtain considerable results providing one displays tenacity, audacity and ingenuity and conducts the struggle over the whole territory". (1)

Mines can be classified at the top of the procedures implemented, considering the number of destroyed armored elements (a total of 85%).

Their variety was endless, for any explosive missile, any recuperated projectile, was a potential mine for the enemy. The detonating devices were just as varied, but the pressure lighters and command firing were the most commonly used.

In the face of this danger, our detecting devices were inadequate and a Squadron Commander observed that the tanks had become "exploding machines".

Portable anti-tank weapons (75 m/m recoilless, 57 m/m recoilless, S.K.Z. rocket-launchers and bazookas) came in second place considering the inflicted losses (about 8% of armored elements destroyed).

Once the armored element was immobilized, the opponent frequently attacked it with explosives, gasoline cans, etc.

Passive obstacles were placed on roads, dikes, usually at places where any outflanking was impossible. The V.M. utilized earth merlons, deep breaches, "piano keys", traps, indiscriminately, etc. Most of the time, obstructions were combined with mines and traps for the troops.

The parries we offered in this technical field (2) were quite varied:

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- (1) Teachings of the Indochina Campaign concerning the A.F.C. (Inspection of the A.F.C. in Indochina.
 - (2) We are only talking here about the procedures applied during the campaign; the desirable devices will be mentioned in Volume III.

regular maintenance of roads, double armor of the lower part of vehicles, anti-mine covers and rubber rolls filled with sand on floors (1), makeshift reversing devices for light armored cars, covering of the armored elements with barbed wire to avoid an excalade, and with faggots to provide the premature bursting of hollow charges, etc.

All these procedures, which were not new anyway, proved their worth, with the exception of the two last ones which offered more inconveniences than advantages.

As to the tactical parries, they were also standard: articulation in depth and action of the "borne support elements". In addition, the role of patrols, the harassing fire at night executed on portions of roads known to be usually mined, as well as the laying of mines on the small dikes of access gave good results.

And last, in case of enemy assault, the utilization of "canister" shells, of grenades and of the individual equipment of the crew, as well as the rotating action of the turret procured an efficient defense.

INVOLVEMENT OF THE ARMOR AT NIGHT

The Armor rarely intervened at night and generally, if they did, it was under pressure of an emergency.

Attacks while in bivouac or in quarters caused us heavy losses every time the vehicles were not protected by Infantry fire barrage (2) and they were used statically.

On the other hand, when the armored elements counter-attacked under similar circumstances, their action was usually decisive. This was

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- (1) The assembling of grill-work roofs to protect the vehicles into the open against grenades comes from similar preoccupations.
 - (2) The example of the attack on the LE KHU post already mentioned has illustrated this incapacity to insure the security of the Armor at night.

particularly the case in the "attack launched by the Armored Sub-Group No. 3 at TIENKHE (Tonkin), July 18, 1954, when the V.M. left 200 dead on the field (among whom 20 "dynamiteros" darrying explosive charges) and lost a considerable amount of weapons". (1)

The night interventions for the attacked posts were in some cases also determinative.

"In June 1954, a platoon supported by an Infantry company suddenly appeared in the back of some V.M. companies attacking a post, at one AM. Results: 19 counted dead, many wounded, retrieved weapons". (2)

But many users feared such actions.

"Night interventions are very costly and, unfortunately, rarely efficient. The V.M. mined all roads leading to the post scheduled to be attacked and slowed down, if they didn't altogether stop, the intervention elements".

Some even felt that "the use of the armored forces must, as a general rule, be proscribed at night". (3)

Be it as it may, actions carried out at night have shown the advantage that can be derived from procedures tending to increase visibility.

The lighting of the battlefield by Luciole planes, light-pots, turret flood lights, flares, have certainly contributed a substantial assistance.

"Mortar shell flares proved very efficient. In particular, they made counter-attakes at night with tanks possible. The required consumption was of

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- (1) Captain X.... Assistant to the Lt. Colonel Commanding the 3rd Armored Sub-Group.
 (2) Captain X.... Commanding an A.M. Reconnaissance Squadron.
 (3) Colonel X.... Commanding a Reconnaissance Regiment.

two 81 m/m shells per minute, regulated so as to light the terrain 400 meters in front of the tanks on a 600 meter front". (1)

The adjustment of weapons turret under the light of a flood-light directed parallel to the gun gave good results. (2) But the fact that in Indochina infra-red devices were not adapted to armored vehicles adequately, did not permit, unfortunately, to draw any definite conclusions on this technique.

Anyway, "the French Army must make all necessary efforts to learn to maneuver at night. This will not be accomplished without difficulty, for as men become more and more civilized, they become less and less comfortable in darkness". (3)

The Armored Force had begun the campaign by drawing on the facilities of a few regiments. It ended it with four Sub-Groups, two Amphibious Groups and two Reconnaissance Squadron Groups.

The Command had thus recognized the necessity of having armored units capable of waging combat on their own.

At the time of the cease-fire, this evolution was still considered insufficient: in spite of the difficulties of the terrain, of the widespread nature of threats and of the increasing necessity to assist the fatigued Infantry, the Command felt a growing need of units really capable of accomplishing Cavalry missions.

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- (1) Captain X.... Commanding the Borne Squadron Group of an Armored Sub-Group.
 - (2) The presence of an automatic weapon for close-range defense, with a shield to protect its servant, proved equally useful.
 - (3) Lieutenant Colonel X.... Commanding an Armored Regiment.