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MAY 1967

A TRANSLATION FROM THE FRENCH
LESSONS OF THE WAR IN INDOCHINA
VOLUME

Translated by V. J. Croizat, Col. USMC (Ret)

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VOLUME 2

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PREFACE

While Mao Tse Tung, Vo Nguyen Giap, and even Che Guevara are avidly read and liberally quoted, the French, who were among the first of the western nations to gain practical experience of modern revolutionary war, are seldom heard from outside of their own country. Moreover, after the United States began the rapid expansion of its advisory effort in South Vietnam in 1962, the British experience in Malaya was often cited by Americans in Saigon as a model of how to handle an insurrection, but little if anything was ever said of the French experience in Indochina.

This seems strange indeed, for in Malaya the Chinese Terrorists were a separate ethnic group, few in numbers, and without the privilege of sanctuary across a friendly border. In contrast, in Indochina the Viet Minh were the same as all other Vietnamese people, and they challenged the French with a powerful political and military organization generously supported by the neighboring Chinese Communists.

What is of even greater significance is that today the United States is fighting essentially the same enemy that the French first engaged more than two decades ago, and is doing this over much the same terrain and under the same climatic conditions. Finally, and most important of all, is the fact that the present leadership of North Vietnam is the very same whose determination and tenacity helped it to prevail over the French. The lessons that the French learned in the course of their prolonged conflict should, therefore, offer something more than simple historical data.

The Lessons of the War in Indochina, originally published in three volumes, is an official document issued by the Commander in Chief, French Forces, Indochina, in May 1955. Volume 1 is a Top Secret document concerned with high-level politico-military issues. It was distributed to a very small number of officials and is not available. Volumes 2 and 3, originally published under Secret classification, have recently been made available in the United States For Official Use Only. These two volumes are complementary in that Volume 2
is concerned with a summary of the experience of the war and Volume 3 seeks to deduce guidance from this experience that might have application for French forces in similar wars in the future. Because of this, Volume 2 is considered to be of greater interest to American readers. This volume was obviously intended for a military audience with some prior general knowledge of French operations in Indochina, and it was considered desirable that its translation include some explanatory footnotes and be preceded by an introduction containing an historical summary to serve as a frame of reference for the details described in the text.
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Southeast Asia
TRANSLATOR'S INTRODUCTION

Indochina became an area of direct concern to the United States more than a quarter of a century ago when it repeatedly served as the focal point for the acrimonious exchanges that eventually culminated in the Japanese attack on Pearl Harbor.

The reasons for this were twofold. First, Indochina was the back door to China and, as such, it grew in importance as the coastal areas of China progressively fell to the Japanese. This became critical when the Japanese reached Canton just three weeks before Munich and thereby cut off access to the interior of China by western nations, except for the route from the Tonkinese port of Haiphong by rail to Kunming, and by way of the remote and difficult Burma Road. The second reason is that Indochina was, for the Japanese, the gateway to Southeast Asia, and hence to the rubber, tin, and oil of Malaya and the East Indies.

The first Japanese moves toward Indochina were made in early 1939 when troops were landed on Hainan and the Spratly Islands. These actions were accompanied by increased pressures on the French and British concessions in China, and by restrictions on shipping in the South China Sea. In response to these developments, the French reinforced their garrison in Indochina from 27,000 to 50,000 men.

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1Indochina consisted of the colony of Cochinchina and the protectorates of Annam, Tonkin, Cambodia, and Laos. Annam and Cochinchina now form South Vietnam. Tonkin corresponds generally to North Vietnam.

2The meter-gauge 862 km line to Yunnan was completed in 1910. Just before World War II the railroad carried about 3½ million passengers per year, mostly on short hauls. It also carried over 300,000 tons of freight; this substantially increased when the Chinese government moved to Chungking.

3Andrew Roth, Japan Strikes South, Institute of Pacific Relations, New York, 1941, p. 19.

4Of the 27,000 troops in Indochina in 1937, only 10,000 were listed as European.
This, however, was relatively insignificant, since the naval and air units remained small and were equipped largely with outdated equipment. Moreover, with the outbreak of the war in Europe, the possibility of further reinforcements disappeared, and Indochina was thrown completely upon its own resources.

Whatever discretion the Japanese had used in their dealings with the French was cast aside at the news that France had capitulated. No sooner had the French ceased their resistance in Europe than the Japanese demanded that the railroad to Yunnan be closed to movements of war material to China, and that they be allowed to station a control commission in the protectorate. The French could do little but agree, although they suspected that this would only lead to other demands. Such demands were made on August 1, 1940, in a note requesting the right of transit for Japanese troops across Tonkin, the construction of airfields in the area, and economic agreements that would in fact bind Indochina securely to the Japanese sphere.

The French informed the United States of these developments and pointed out that their ability to resist was directly related to the support that the United States could provide. But, the United States had just placed an embargo upon shipments of high-grade steel, iron scrap, and aviation gas to Japan beginning July 26, and was not disposed to go further at the time. Thus, the French could not hope for any military assistance, and while they made every effort to prolong their negotiations with the Japanese, they were finally forced to grant them a number of concessions. These were significant, but substantially less than what the Japanese had originally demanded. By terms of the agreement of September 22, 1940, the Japanese were given

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1French naval forces in the Far East at the outbreak of World War II consisted of the 8000-ton cruiser Lamotte-Picquet, two 2000-ton sloops (the Admiral Charner and the Dumont d'Urville), two ancient sloops of 600 tons (the Marne and the Tahure), plus a miscellany of auxiliary minesweepers, river gun boats, and service craft. Aircraft throughout Indochina totaled less than 90.

the use of three airfields in Tonkin, permission to station 6000 
troops in the area, and authority to transit no more than 25,000 
troops through Tonkin into Yunnan. It was also agreed that the 
Japanese could evacuate one division from south China through Tonkin.¹

Meanwhile, in the United States there had been serious doubt over 
the effectiveness of the July 26 embargo, largely because it affected 
only highly specialized items. During the month of August 1940, for 
example, licenses were granted for the export to Japan of $21 million 
of petroleum products and 300,000 tons of steel and iron scrap.² Thus, 
by the time that the Japanese began to move into Tonkin, the United 
States was quite ready to react and extend its embargo to cover all 
types of iron and steel scrap. It should be noted that oil was not 
included in this extension, although certain members of the United 
States government were strongly in favor of the measure. The oppo-
ponents of the move, which included the British, Dutch, and Australians, 
based their position on the conviction that if Japan were to be denied 
United States oil, it would take immediate action to seize the East 
Indies. The merit of this thesis cannot be debated, but when an embargo 
upon oil was finally decided upon almost a year later, it did coincide 
with the final deterioration of the United States' relations with the 
Japanese.

Thailand meanwhile looked upon these events as providing the 
opportunity to regain territories that had been ceded to Indochina 
by the treaties of 1893 and 1907.³ Accordingly, Thai forces began a 
series of probing attacks along the Cambodian border and, by December,

¹Ibid., p. 15. The Japanese division to be evacuated did not 
await the end of the negotiations, but launched an attack on September 
23 against the French at the border town of Langson. Losses 
were heavy on both sides, and the situation was only restored when the 
Japanese advance was halted on the 25th.

²Ibid., p. 18.

³Lawrence K. Rosinger and Associates, The State of Asia, American 
Institute of Pacific Relations, New York, 1951, p. 271.
fighting was general along the whole of the frontier. At this time it became evident that French ground forces could not hold, and to relieve the pressure against them, the French moved their naval units into the Gulf of Thailand to seek out the Thai fleet. The engagement that took place on January 17, 1941, off the Koh Chang Islands was a decisive defeat for the superior Thai naval forces.¹ This precipitated Japanese intervention in the form of demands for an armistice, which the French were quick to accept. Hostilities were then terminated by the end of the month.

Having closed the back door to China by moving forces into Tonkin, the Japanese next turned to the task of exploiting Indochina's position as the gateway to Southeast Asia. For this purpose, the Japanese government addressed a series of new demands to the French on July 14, 1941. The French, pressed by the Germans at home and finding no visible means of support elsewhere, came to terms with the Japanese more quickly than before. The agreements reached in late July permitted the Japanese to use eight airfields in south Indochina, the naval facilities at Saigon and Cam Ranh Bay, and to deploy unspecified numbers of troops into the country;² in other words, Indochina was set to become a Japanese base.

The United States' reaction to this development was conveyed to the Japanese Ambassador in Washington by the Acting Secretary of State, Mr. Sumner Welles, on July 23 in the following words:³

The movement now undertaken by Japan could only be regarded by the United States as having two probable purposes, neither of which purposes this government could ignore: First, the United States could only assume that the occupation of Indochina by Japan constituted notice

²Langer and Gleason, op. cit., p. 642.
³Ibid., p. 644.
to the United States that the Japanese government intended to pursue a policy of force and conquest, and second, that in the light of these acts on the part of Japan, the United States, with regard to its own safety in the light of its own preparations for self-defense, must assume that the Japanese government was taking the last step before proceeding upon a policy of totalitarian expansion in the South Seas through the seizure of additional territories in that region.

Deeds then followed upon words, and on July 26 an executive order freezing all Japanese funds and assets in the United States was announced. This was followed by notification to Japan that the Panama Canal would be closed for repairs. Further, Philippine military forces were mustered into service with the United States Army. Finally, on August 1 the President issued an order prohibiting the shipment to Japan of a list of strategic materials to include petroleum products suitable for use as aviation fuels.¹ Thus, positions hardened, and although negotiations between the United States and Japan were continued, the course toward Pearl Harbor was set.

The opening moves of the war were a series of surprise attacks launched by the Japanese within a few hours of one another over the far reaches of the Pacific world. The attack against Pearl Harbor was the task of Vice Admiral Nagumo's Pearl Harbor Striking Force, based in the home islands. The moves against Guam and Wake were the responsibility of Admiral Inouye's Fourth Fleet, based at Truk. Hong Kong was the target of locally based Japanese forces. General Homma's invasion of the Philippines was a two-pronged operation with the 14th Army striking from Formosan staging areas against northern Luzon, while other elements from Palau landed on Mindanao and Jolo. Finally, Indochina served as the springboard for the amphibious assault astride the Thai-Malay border by General Yamashita's 25th Army, and for the overland invasion of Thailand by the Imperial Guards Division. This last was followed shortly by General Iida's 15th Army, whose task was the invasion of Burma.²

¹Ibid., p. 651.
As a consequence of these events the 30,000 European civilians in Indochina\(^1\) found themselves in the precarious position of living in the midst of a native population that had on several occasions in the past demonstrated its nationalist tendencies, and a Japanese military community that looked upon the area as its own. Moreover, the French in Indochina were soon torn by the same doubts and dissensions over Vichy and Free France as their compatriots in Africa and in Europe. The combination of these factors, aggravated by the distance and isolation of Indochina from the stream of events in Europe and Africa, serves to explain in large part why there did not develop any immediate significant resistance movement in Indochina.

For the Japanese, Indochina was a source of supplies and a well situated strategic base. And, since these assets could be exploited with little difficulty, it served their purpose to allow the French to retain the outward trappings of authority. This, however, was completely unsatisfactory to the Free French who, from the time that they had renewed their struggle against the Axis, entertained the hope of an early liberation of Indochina. These hopes began to take form in the fall of 1943 when a decision was made to organize an Expeditionary Corps for operations in the Far East.\(^2\) At the same time French military personnel joined Force 136, an organization that had been created by the British in India for covert and commando type operations in Southeast Asia. In similar fashion, another French group had been established in Kunming in south China, initially to maintain contact with French elements in Indochina, and later to provide the basis for an agent net extending along the northern Indo-chinese border areas.\(^3\)

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\(^1\)Great Britain, Naval Intelligence Division, *Indochina*, Geographical Handbook Series, 1942, p. 250. It should be noted that these figures related to all persons classed as Europeans regardless of race, color, or nationality.


Liaison between these two French groups in the Far East was complicated by the fact that in accordance with Allied Command arrangements, Indochina was in the China theater. This, while technically under Generalissimo Chiang Kai-Shek, was in fact an area of American strategic responsibility. There was thus a wide difference in attitude toward the French serving in India under Admiral Mountbatten's sympathetic South East Asia Command, and those forming Mission 5 in Kunming, where the Americans, reflecting President Roosevelt's anti-colonial views, and particularly his reluctance to see the French return to Indochina, were cool and reserved.  

Despite all difficulties, a resistance in Indochina did develop, and as the tide of war in the Pacific turned against the Japanese, the French became increasingly defiant. This situation eventually became intolerable, and on March 9, 1945, the Japanese struck against the scattered French garrisons in the country. The French losses in these actions were heavy, but by May some 6000 troops, mostly Europeans, had fought their way out and were regrouped in south China. 

The Japanese then turned to native political figures to establish the forms of new government. On March 11, Bao Dai proclaimed the independence of the Empire of Annam, uniting Tonkin and Annam under the old name of Vietnam. This was followed, on March 13, by the declaration of independence of the King of Cambodia; that of the King of Laos then followed on 20 April. Admittedly Cambodia and Laos enjoyed a considerable degree of freedom, since there were few Japanese in those countries. However, there was little self-rule in Vietnam, and the weakness of the Bao Dai regime was emphasized by the unwillingness of many nationalists to support it, and by the fact that the Japanese had retained direct control of Cochinchina.

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1 U.S. Army in World War II, op. cit., p. 393.
The lack of popular support for Bao Dai is readily explained by what had been happening to nationalist groups in Indochina. In the course of the preceding years, several of these groups, including the Communists in 1940, had attempted uprisings that had all been put down by the French. As a consequence, many of the revolutionaries involved had then made their way to south China where, in 1941, they began to consolidate under the leadership of Ho Chi Minh as the Vietnam Independence League. This association, called Viet Minh in abbreviated form, was too far to the left to enjoy the confidence of Generalissimo Chiang Kai-Shek, and in late 1942 a more docile coalition group, the Vietnam Revolutionary League, was formed under Chinese sponsorship. Ho Chi Minh had meanwhile been jailed by the Chinese as a French spy, and the Viet Minh had become a section of the League. Ho was eventually released in 1943, and the work of organizing Viet Minh guerrilla forces and infiltrating them into North Vietnam was undertaken in earnest.\(^1\)

While the avowed purpose of the Viet Minh movements into North Vietnam was to fight the Japanese, it was evident that the real object was to drive out the French. This is affirmed in handbills distributed in Moncay in March 1945 which said that the Allies would destroy the Japanese and that it was for the Viet Minh to destroy the French, who were then in difficult straits.\(^2\) In any event, by May 1945 there were six provinces in Tonkin under Viet Minh control, and shortly before the collapse of Japan the Viet Minh had organized a People’s National Liberation Committee to set up a new regime.

The opportunity to implement these plans came during the month between mid-August, when the Japanese capitulated, and mid-September, when the first British and Chinese occupation forces arrived in Saigon and Hanoi respectively.\(^3\) On August 25, Emperor Bao Dai signed the

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3. In accordance with agreements reached during the Potsdam meeting (July 1945), Indochina was to be divided at the 16th parallel for purposes of postwar occupation, with the southern segment to be a British responsibility, and the northern one to be Chinese.
decree of abdication which transferred "our authority to the Democratic Republican government." This was followed on September 2 by the signing of the declaration of independence in Hanoi by Ho Chi Minh and his associates. The Republic of Vietnam thus created claimed authority over the whole of Vietnam to include Tonkin, Annam, and Cochinchina.

Vo Nguyen Giap writes of these historic events in the following words:

In August 1945, the capitulation of the Japanese forces before the Soviet Army and the Allied forces, put an end to the world war. The defeat of the German and Nippon fascists was the beginning of a great weakening of the capitalist system. After the great victory of the Soviet Union, many people's democracies saw the light of day. The socialist system was no longer confined within the frontiers of a single country. A new historic era was beginning in the world.

In view of these changes, in Viet Nam, the Indo-chinese Communist Party and the Viet Minh called the whole Vietnamese nation to general insurrection. Everywhere, the people rose in a body. Demonstrations and displays of force followed each other uninterruptedly. In August, the Revolution broke out, neutralizing the bewildered Nippon troops, overthrowing the pro-Japanese feudal authorities, and installing people's power in Hanoi and throughout the country, in the towns as well as in the countryside, in Bac Bo [North Vietnam] as well as in Nam Bo [South Vietnam]. In Hanoi, the capital, in [sic] September 2nd, the provisional government [sic] was formed around President Ho Chi Minh; it presented itself to the nation, proclaimed the independence of Viet Nam, and called on the nation to unite, to hold itself in readiness to defend the country and to oppose all attempts at imperialist aggression. The Democratic Republic of Viet Nam was born, the first people's democracy in South-east Asia.

At the time of the Japanese capitulation, the French had some 700 military personnel in India available to accompany the Commonwealth forces ordered to occupation duties in Indochina below the 16th parallel. An initial detachment of 150 French landed with the

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Ghurka Brigade at Tan Son Nhut airfield on September 12. The remainder were embarked on the French warship Richelieu and landed with the other two Commonwealth brigades at Cap St. Jacques (Vung Tau) on October 2.1

The situation in Saigon had been tense for some time, and when clashes broke out between the French and Vietnamese, General Graczy, the British commander, imposed martial law. He also freed and rearmed the French troops whom the Japanese had interned a few months before. On September 23, the reinforced French were enabled to regain control of the public buildings in Saigon and resume the administration of the city. Resistance on the part of the Vietnamese against the French nevertheless continued.

General Leclerc, who had represented France at the surrender ceremonies in Tokyo, soon arrived in Saigon to assume command of French forces.2 On October 15 he flew to Cambodia, arrested the pro-Japanese premier, and cleared the way for a new government that would eventually (January 7, 1946) agree to a return of French control over the country.3

On October 22, the initial element of the French Expeditionary Corps proper, a combat command from the 2nd Armored Division, began debarking in Saigon. This was followed in November by the 9th Colonial Infantry Division, and in December by a brigade from Madagascar. As these additional forces landed, General Leclerc quickly formed them into flying columns which he used to extend French control over the whole of Indochina south of the 16th parallel. He realized that this control was at best tenuous, since the Viet Minh quickly reformed once the French forces had passed on. Nevertheless, he was anxious to reintroduce the French presence throughout the south to pave the way—psychologically, if nothing more—for the far more difficult task awaiting him in the north.

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1The details that follow are based primarily upon a series of lectures prepared for the Ecole Superieure de Guerre (the French War College) on the Indochina War.

2The British formally relinquished control of south Indochina to the French in March 1946.

3A similar agreement was reached with Laos in August 1946.
The return of the French in the south was facilitated by the cooperation of the British and the lack of firm control by the newly independent Vietnamese government over competing nationalist elements. The situation in the north was, however, far different.

As soon as the word of the Japanese surrender reached Kunming, Jean Sainteny, the head of the French Mission there, made every effort to rush to Hanoi. Yet, when he did arrive on August 22, he found there was little that he could do, for the government of Ho Chi Minh was firmly established in power, and the Chinese were expected to arrive momentarily to exercise their occupation functions. The return of the French thus became conditional on two counts: first, there had to be an agreement whereby French troops would replace Chinese forces, and second, there had to be some form of accord with the Vietnamese government.

The advance elements of the approximately 200,000 troops that the Chinese were to dispatch to Indochina north of the 16th parallel to receive the surrender of some 35,000 Japanese arrived in Hanoi on September 15. There then began a period of systematic looting by the Chinese which, according to French estimates, involved the transfer of goods to China valued at more than 250 million Indochinese piasters. At this same time there returned from exile certain Vietnamese nationalists, notably the Dong Minh Hoi party, who enjoyed the support of the Chinese military, and who had sufficient strength so that they could not be ignored by Ho Chi Minh.

The French undertook negotiations with the Chinese in Chungking and, at the cost of major concessions, reached an agreement on February 28, 1946, permitting them to move military forces into Indochina north of the 16th parallel. In this the French were probably assisted indirectly by the fact that Chiang Kai-Shek needed his troops for operations against Chinese Communist forces in China. During this same period there had been a series of conversations between the French and Ho Chi Minh, in which it was evident there were compelling reasons for tolerance and compromise on both sides. Eventually this led to a "preliminary agreement" which was signed in Hanoi on March 6, 1946,
whereby France recognized the Democratic Republic of Vietnam as a "free state of the Indochinese Federation within the French Union," and the Vietnamese government declared itself "...ready to welcome in friendly fashion the French army when, in conformance with international agreement, it would relieve the Chinese forces...."

The conclusion of the preliminary Franco-Vietnamese agreement of March 6 removed the last legal obstacle to the return of the French, and on the very day it was signed, the first of the 15,000 French and 10,000 Vietnamese troops that were to be allowed north of the 16th parallel began landing in Haiphong.\(^1\) The French forces entered Hanoi on March 18 and soon thereafter there were French garrisons in Tourane (Danang), Hue, and Langson. Additionally, the forces that had been regrouped in south China returned and occupied Phong Saly and Sam Neua in Laos, and the China border-area towns of Laichau and Moncay. In sum, in a little more than six months the French had reoccupied major strategic points throughout Indochina. Peace, however, had not been restored.

In April 1946, a Vietnamese delegation reached Paris to elaborate upon the preliminary agreement of March 6 concerning "the future status of Indochina" and the "diplomatic relations of Vietnam with foreign powers." These were issues that had been left pending despite the fact that they were of major importance, since they constituted the essentials of Vietnamese sovereignty. This importance became evident in the course of the prolonged negotiations that ensued, wherein the divergence of views between the French and Vietnamese and the firmness of their positions made any satisfactory compromise

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\(^1\)As the French ships moved up the river toward Haiphong, they received heavy fire from the 130th Division of the 53rd Chinese Army. General Wang Hu Huan, the commander, later explained that while he knew of the February 28 agreement concerning the relief of the Chinese by the French, he had not received implementing instructions. This was but one of many incidents that revealed the independent attitude of several Chinese commanders. It has been suggested that this independence was motivated by their desire to remain in Vietnam as long as possible and continue the accumulation of "tribute." In any event, the last Chinese unit did not leave Vietnam until September 1946.
impossible. However, while the Vietnamese delegation returned to Haiphong on October 3 empty handed, Ho Chi Minh, who had participated in many of the discussions during the previous months, remained in France to make a final effort to salvage something from this unhappy and inconclusive period. The result of this final gesture was a "modus vivendi" signed on September 14, 1946, which prescribed interim measures intended to harmonize relations between the French and Vietnamese pending the resumption of negotiations in January 1947.

The situation in Vietnam meanwhile had been deteriorating, and there was little hope that policies of moderation and conciliation could continue to be entertained. During the four months that Ho Chi Minh had been away from Vietnam, his deputy, Vo Nguyen Giap, had consolidated the power of the Viet Minh in the north, and had largely destroyed the prospects for any adjustment of the basic differences with the French. Indeed there was even a period when Ho Chi Minh was labeled a traitor to the cause of Vietnamese independence because of his dealings with the French. By the time that Ho Chi Minh returned to Vietnam aboard a French warship on October 21, the two final acts that were to lead to open warfare were only a few weeks away.

The first of these occurred in November when the French Navy seized a junk presumed to be loaded with contraband. This touched off the question of customs arrangements, which was already a sensitive issue between the French and Vietnamese. In the violence that quickly followed, the French undertook operations to clear the city of Haiphong and caused heavy casualties among the civilian population. The second act was a series of violent and surprise attacks launched by Viet Minh forces against the French in Hanoi during the evening of December 19. Open fighting then broke out throughout much of Indochina and, despite later attempts at negotiations, the rupture between the French and Vietnamese was complete. The Indochina War had begun.

In the months that followed, the French were able to hold their own, and by the spring of 1947, reinforced with elements from France and Africa, they held the area from Hanoi to Haiphong, together with
an extension up the coast to Langson. They also controlled an enclave centered on Nam Dinh. In central Annam, they had extended themselves south of Tourane and up along the coast as far as Dong Hoi. Finally, they controlled the approach to Laos inland from Dong Ha along Route 9. At the same time, Ho Chi Minh and his government, together with the major portion of the Viet Minh forces, had moved into the upper mountain country of Tonkin near the Chinese border.

Following upon an abortive attempt for a resumption of negotiations between the French and Vietnamese in early 1947, the French embarked upon a political offensive against the Ho Chi Minh government by inviting the former Emperor Bao Dai to return to the throne. This marked the beginning of a long and complex process that eventually led to the division of Vietnam into two separate states in 1954.

Bao Dai had, upon his abdication in August 1945, agreed to serve the Ho Chi Minh government as an advisor. In that capacity he had been sent to China, from where he had never returned. In 1947, at the time of the French approach, he was living in Hong Kong and had a very limited following in Vietnam. Under the circumstances, Bao Dai delayed making any commitments to the French and announced that he would return home only when the people called him. The first step to this end occurred on May 20, 1948, when pro Bao Dai groups were able to organize the Provisional Central Government of Vietnam. Bao Dai, however, did not return to Vietnam until April 1949, when the way had been cleared for him to become Chief of State.

The United States supported these developments, and when in January 1950 the French government ratified the treaties with the Associated States that cleared away the last legal formalities regarding the Bao Dai government, both the United States and the United Kingdom extended formal recognition to it. This was followed in May by an announcement by the Secretary of State that the United States would grant military and economic aid to restore security and develop "genuine nationalism" in Indochina.
These events had their parallels in the north. First, the extension of Communist control over the whole of China in 1949 provided Ho Chi Minh with a secure and readily accessible supporting base immediately to his rear. Then, in early 1950 the government of Ho Chi Minh was formally recognized by Communist China and the USSR. Finally, in mid-year, the schism between the major opposing factions in Indochina and their adherents throughout the world was deepened and widened by the outbreak of the Korean war.

In the military domain, the French had decided to take advantage of the dry season during the latter part of 1947 to seek out and destroy the main Viet Minh forces in the Tonkin highlands. They estimated that the task would take six months and require 20,000 troops. However, because of developments in Madagascar, only 12,000 troops, including four infantry battalions borrowed from Cochinchina, could be assembled for offensive operations in Tonkin, which, moreover, had to be terminated by the end of the year.

Operations began on October 8, 1947, with the drop of two parachute battalions on Cao Bang and Bac Kan. This was followed by the sweep of two task forces advancing parallel to one another. The larger force of 8000 men moved overland out of Langson along Route 4 to Cao Bang, and as far west as Thai Nguyen. The smaller force of 4000 men moved up the Clear River as far as Tuyen Quang. These operations were successful in that the Viet Minh were cleared out of the northeast border area and more of the frontier was brought under French control. However, the main Viet Minh forces had been driven off rather destroyed, and the requirement to garrison additional remote border posts aggravated what was already a precarious position for the French.

Early in 1948 Cochinchina became increasingly insecure and it was necessary to return the battalions that had been borrowed. At the same time the ground component of the Expeditionary Corps was gradually reduced in strength to the point where, in May, it had dropped from 115,000 to 108,000 men. Despite these problems, the French considered it essential to make every effort to improve the cohesiveness of their dispositions, which at the time included numbers of remote and separated units. In Cochinchina, this decision led to the establishment of
an extensive system of fortified military posts, which was to be repeated and improved later in Tonkin. In the north, the limited resources permitted only some minimum improvements in the positions along Route 4, and the initiation of a campaign intended to gain the support of the ethnic minorities in the highland areas.

In mid-year, following upon the first moves to organize a government under Bao Dai, there was a shift in the military emphasis from that of seeking battle with the Viet Minh to that of engaging in politico-military activities for the purpose of enhancing Franco-Vietnamese solidarity in support of the new government. The new commander of the Expeditionary Corps, General Blaizot, had suggested while in Paris that this new mission still required substantial forces, and before leaving had obtained approval for the deployment of 12 additional battalions to Indochina. In the meantime, the recruitment of native Indochinese personnel for service in auxiliary military formations had also begun.

As a consequence of these actions the personnel situation began to improve, and it was possible during the months that followed to occupy Sontay, Vietri, Hung Hao, and adjacent areas to the south. The French forces on the Red and Black Rivers were, thenceforth, firmly linked together, and could be resupplied by inland waterway. This in turn released substantial airlift capacity for other purposes. These same operations also served to cut in two the vast Viet Minh controlled area that extended from Vinh, on the coast, clear up to Ha Giang on the Chinese border.

As a result of all of these activities, the positions of the French forces in the Tonkin delta had considerably improved by the beginning of 1949. In contrast, the Viet Minh was making it increasingly costly for the French to resupply their garrisons in the northeast border areas along Route 4. The monthly resupply effort had become a major operation. In Cochinchina, the situation generally was favorable. The pacification was progressing satisfactorily and the number of natives enlisting with the French was growing. In central Annam, however, there were difficulties. The French had only
six battalions to cover 300 km of coastal fringe. The Viet Minh had moved well armed elements into the plateau area, and these were harassing the French and were infiltrating into the villages, where they were regaining control over the people. Moreover, Route 9 from Dong Ha on the coast to Savannakhet on the Mekong River had become quite hazardous.

At this same time, the flow of reinforcements and the recruiting of local personnel had permitted the buildup of the ground forces to 122,000 men. This was still far less than what was required, but it did nevertheless represent a net gain coming at a propitious moment.

General Blaizot had been following developments in China closely since the fall of 1948, and had concluded that Chinese Communist forces could reach the Indochina border by mid-1949. Accordingly, he urged upon M. Leon Pignon, the High Commissioner, a plan calling for a major military effort in the north to weaken and disorganize the Viet Minh to the maximum extent possible before Chinese assistance could be made available. The High Commissioner was, however, deeply involved in the delicate negotiations that were to return Bao Dai to Vietnam in April 1949, and did not want to risk the possibility of perturbations in the south that might adversely affect the forthcoming arrangements. In February 1949 he therefore rejected General Blaizot's proposals for large-scale offensive operations in the north in favor of an extension of the pacification, particularly in Cochinchina and Annam.

The decision was reversed in March when the government in Paris, alarmed by the Chinese threat, directed the deployment of additional forces to Indochina. In response to this new development, the French command proposed first to gain firm control over the rice-producing area north of the general Hanoi-Haiphong line to deny the resources to the Viet Minh. Following upon that, and as further reinforcements became available, advance offensive bases were to be established at Thai Nguyen, Phu Tho, and Yen Bai. These bases were to be used by mobile forces tasked with penetrating into the Viet Minh mountain redoubt to effect the maximum destruction there. At the same time
that these offensive bases were being organized, the several exposed border area garrisons were to be reduced and consolidated. The forces recovered by this consolidation could then be used to reinforce the mobile formations. Finally, the Tonkin delta was to be protected against possible Chinese incursions by covering forces deployed at the southern exits of the highlands.

This plan was approved in June 1949 and, as the first reinforcements arrived from France, control was extended to the north of Hanoi by the occupation of Bac Ninh, Phu Lang Thuong, Vinh Yen, and Phuc Yen. By the end of the year, however, it had become increasingly difficult for the French to continue to implement the plan, since the bulk of the reinforcements were being diverted to the south.

The weakening of the French offensive capabilities in the north had permitted the Viet Minh to attack and seize Pho Lu, some 30 km southwest of Lao Kay where the Red River enters China. This not only served to further isolate the French position at Lao Kay, but also permitted the Viet Minh to reestablish their overland communications with north Annam. At the same time, the Viet Minh had intensified their efforts against the French line of communications in the northeast. The losses they had inflicted upon the September and October (1949) convoys were so heavy that the French had had to turn to their Air Force to ensure the delivery of the 500 tons of supplies required by the border garrisons each month. The French had hoped that by relieving their 12 battalions in the northeast of the burden of safeguarding their communications, they would have been able to improve their offensive capabilities against Viet Minh communications with the Chinese. This hope did not materialize. In the course of most of 1950, the French were unable to undertake any significant operations against the Viet Minh, and indeed many of the garrisons northwest of Lang Son were confined to their defensive positions by Viet Minh pressure. The only freedom of movement in the area was

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1 These moves were directed by General Blaizot shortly before his final departure from Indochina on September 2, 1949.
enjoyed by the Viet Minh, who made full use of the opportunity to accumulate supplies from China and undertake the systematic training of thousands of recruits in base camps organized in China near the border.

The situation remained generally inconclusive until September 16, 1950, when the Viet Minh carried by assault the French-held post at Dong Khe on Route 4. This was accompanied by renewed Viet Minh activity in the vicinity of Lao Kay. As a consequence of these evidences of Viet Minh offensive strength, the French decided to consolidate their forces in the northwest border area around Lao Kay, and to withdraw all garrisons along Route 4 beyond Langson. The consolidation around Lao Kay was carried out without difficulty. However, the series of operations in the northeast that began with the evacuation of Cao Bang on October 3, 1950, had a disastrous outcome. The Viet Minh sensed the significance of the French moves and quickly assembled a force aggregating 15,000 men. These were employed with such speed and skill that in ten days the outnumbered French had lost seven battalions and their equipment.

These costly misfortunes, aggravated by a developing Viet Minh encirclement in the Lao Kay area, forced the French to undertake further withdrawals and consolidations of their forces. When these movements were completed in November 1950, the French held only the heart of the Tonkin delta, together with a narrow coastal strip from Haiphong to Moncay, plus the high ground in the northwest between Than Uyen and Nghia Lo.

These events made it abundantly clear that Chinese aid to the Viet Minh had made the French position in Indochina highly precarious, and that the main French effort had to be made in the north. In

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1The extent of this aid is difficult to ascertain. However, the French report that the following was furnished during the second half of 1952: 20 howitzers, 105-mm; 2000 machine pistols; 80 heavy machine guns; 100 trucks; 130,000 pairs of shoes; 2 summer uniforms per man; 800,000 liters of gasoline; 10,000 rounds, 105-mm; 1 million rounds, .50 cal; 300 tons of medical supplies.
response to the gravity of the situation, the French consolidated the powers of the High Commissioner and Commander in Chief in the person of General de Lattre de Tassigny on December 17, 1950. They also undertook, in agreement with Bao Dai, to organize an independent Vietnamese Army whose immediate function would be to relieve part of the Expeditionary Corps of pacification duties so that the main French forces could be concentrated in the north. At this same time the French government dispatched additional forces to Indochina to compensate for the losses that had been sustained. By the end of 1950, therefore, the strength of the Expeditionary Corps was slightly higher than the 152,000 men with which it had started the year.

The dynamic personality of General de Lattre, who personally took command in Hanoi, quickly made itself felt. Viet Minh efforts to exploit their successes of September and October 1950 by new attacks in December and January were checked—the last with unusually high Viet Minh losses. The French positions around the delta were improved by the organization of a system of fortified posts similar to the ones that had been built in the south. In the regrouping and reorganization of the French forces, the organization of mobile groups, and the creation of specialized commandos for long-range counterguerrilla and intelligence gathering missions were among the more notable innovations.

In May 1951 the Viet Minh launched a violent attack against Ninh Binh. This was repulsed and marked the last time that the Viet Minh made an effort to penetrate into the Tonkin delta by direct military action. By the latter part of 1951 the French, in turn, considered they had the strength for a limited offensive. At the time the French still held only the Tonkin delta plus an extension along the coast to Moncay. In addition, they held the highlands to the west of the delta in the area above Nghia Lo. This isolated area was separated from the main French delta position by a Viet Minh line of communications that linked their northern mountain redoubt with the Than Hoa area along the coast south of the delta. In November 1951 the French launched an operation to seize Hoa Binh and sever these communications. The initial phases of the offensive were successful, but they caused a
violent Viet Minh reaction that eventually involved some 40,000 of their troops. In the course of the numerous engagements that ensued, the French were finally forced to evacuate their forward positions. Nevertheless, when the campaign ended in March 1952, General Salan, the new Commander in Chief, expressed general satisfaction with the operation in that it had cost the Viet Minh 22,000 casualties, as against French losses of 1,588.

In October 1952, after having regrouped and rebuilt their forces, the Viet Minh launched a general offensive in the northwest. In the course of two months of violent combat in difficult mountain country the Viet Minh succeeded in confining the French into the two strongholds of Na San and Lai Chau. These positions were held despite vigorous Viet Minh attacks. The last of such attacks launched against Na San during the night of December 1-2, 1952, cost the Viet Minh 1,500 dead. In January 1953 the Viet Minh resumed their offensive, but shifted the weight of their effort to upper Laos. The French were forced upon the defensive and were only able to hold bases in the Plain of Jars and Luang Prabang. By May, when the Viet Minh paused again, they controlled all of upper Laos. In October 1953 the Viet Minh resumed their offensive and threatened Lai Chau; Na San had previously been evacuated by the French in August. General Navarre, who had assumed command in Indochina a few months before, considered that it was necessary to divert the Viet Minh from Lai Chau and cover Laos. He accordingly directed that a communication center near the Laos border be occupied for this purpose, and at 10:35 on the morning of November 20, 1953, the first French paratroopers landed at Dien Bien Phu. The final act of the Indochina War had begun.

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1General de Lattre left Indochina in November 1951.
Commander in Chief of the Far East

LESSONS OF THE WAR

IN INDOCHINA

Volume 2
The enemy we fought for the past nine years used, under the name of self-criticism, a time honored practice of our own armed forces which we simply call the critique. This collective self appraisal which routinely followed upon our field exercises has been our best means for studying and improving ourselves.

The application of this same technique of introspection to the brutal realities of war may appear highly unusual. Yet, we must review the causes of our failures and of our successes to ensure that the lessons which we bought so dearly with our dead not remain locked away in the memories of the survivors.

We can also admit that an army with a long history is sufficiently well endowed to be able to hear the truth.

The lessons to be learned from the campaign in Indochina which are presented here have been based for the most part upon narratives of the participants and upon 1400 after-action reports submitted by officers of all ranks. Reference has also been made to a variety of documents such as information bulletins, training instructions, and directives issued by the High Command during the course of hostilities. Other sources of information include reports prepared at the end of major operations, intelligence summaries, and statistical data assembled by the staff of the Commander in Chief (CINC).

Admittedly, it has been difficult to bring together under a single cover the experiences of an entire war; a war whose nature and intensity varied as to time, place, and even season; and whose lessons had to be organized to correspond with the several echelons of command to which they applied. To meet these several requirements, it was decided to organize the material into three separate documents:

1. The first volume, of very limited distribution, covers the lessons which, due to their importance and politico-military
character, are of concern only to the High Command. It contains a summary of the problems encountered in the course of operations which were primarily outside the domain of tactics.

The second volume, intended for wide distribution, groups together everything the Armed Forces learned during the campaign which would still be relevant if we were to be called upon to counter a similar type of rebellion outside of Europe.

Finally, the third volume, with the same wide distribution as the second, seeks to group all the lessons of a more general character which have a bearing upon tactical principles.

The fine line drawn between the contents of the second volume and the third may seem at times debatable. The first deals mainly with the thousand and one forms of the Viet Minh guerrilla, while the other deals mainly with European-style combat methods. But this division, based on convenience, must not lead one to forget that the fortunes of war admit only of didactical classification.

Saigon, May 31, 1955

/s/ P. Ely
General, French Army
Commissioner General of France and Commander in Chief, Indochina
CASUALTIES OF THE INDOCHINA WAR

I. ARMY

1. FALLEN FOR FRANCE

3 Generals
8 Colonels
18 Lieutenant-Colonels
69 Majors
341 Captains
1,140 Lieutenants and 2nd Lieutenants
2,683 French Non-Commissioned Officers
6,008 French Soldiers
12,019 NCO and other ranks; North-African, African, and
Legionnaires
14,093 Indigenous enlisted personnel of the Expeditionary Corps

2. MISSING OR FAILED TO RETURN FROM CAPTIVITY

1 Lieutenant-Colonel
5 Majors
60 Captains
134 Lieutenants and 2nd Lieutenants
2,755 Non-Commissioned Officers and Soldiers
5,791 NCO and other ranks; North-African, African, and
Legionnaires
12,830 Indigenous enlisted personnel of the Expeditionary Corps

3. WOUNDED

20,899 French
24,347 Legionnaires, North-Africans, and Africans
26,924 Indigenous personnel

4. MEDICAL EVACUEES

31,291 Officers and men

5. PRISONERS LIBERATED BY THE ENEMY

16,118 Officers and men
II. AIR FORCE

1. LOST IN COMBAT OPERATIONS

   1 General
   60 Officers
   160 Non-Commissioned Officers
   49 Other ranks

2. DIED OF WOUNDS OR DISEASE OR MISSING, PRESUMED DEAD

   85 Officers
   243 Non-Commissioned Officers
   52 Other ranks

III. NAVY

1. LOST IN COMBAT OPERATIONS

   27 Officers
   39 Petty Officers
   235 Seamen

ANNUAL LOSSES
(all services)

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<tr>
<th>Year</th>
<th>Killed</th>
<th>Wounded</th>
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<tr>
<td>1947 (heaviest losses)</td>
<td>5,345</td>
<td>9,790</td>
</tr>
<tr>
<td>1950</td>
<td>2,297</td>
<td>6,473</td>
</tr>
<tr>
<td>1953</td>
<td>2,849</td>
<td>9,203</td>
</tr>
<tr>
<td>1954 (Vietnamese Army only)</td>
<td>2,590</td>
<td>6,822</td>
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FIRST PART

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THE WAR OF IDEAS

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"If guerrilla war lacks a political objective, it will fail. If it has a political objective which is incompatible with the aspirations of the people it will fail as well, for it will not receive from the people the support, the participation, the assistance, and the active collaboration that are essential.

. . . . . . . . .

"It is as if the people were the sea and the army a fish. How can it be difficult for the fish to survive if it is immersed in this sea? But should the water recede or become dry then the fish cannot escape sure death."

Mao Tse Tung
I. INCIPIENT INSURGENCY

A preinsurgency period is difficult to define. However, it would appear to begin when opposition to established law and order acquires sufficient influence over the population to provoke disturbances.

In Indochina, such a period undoubtedly began about 1925 and was highlighted by the grave incidents of 1930 in North Annam and in the Tonkin delta area. It thus lasted some twenty years and could have lasted longer had not events arising from the war, namely, the elimination of French authority by the Japanese in 1945, given the Viet Minh Party the opportunity to fill the void created.

The lessons to be drawn from this period only confirm several well-established rules. If those rules were ignored, it was because the incipient insurgency was not suspected, and the rebellion did not follow a traditional pattern—a development that took us by surprise.

SYMPTOMS OF INCIPIENT INSURGENCY

The various reports relating to the prewar situation gave an optimistic view of internal security and placed responsibility for the incidents and disturbances upon lawless individuals against whom the use of force was normal and adequate.

"One might wonder if the errors committed in estimating the situation were not due in part to the ultra-conservative training of our administrators who were unable to discern evolutionary trends, and in part to their standards of living which kept them apart from the Vietnamese people."\(^1\)

Here is what a man supposedly well experienced in matters related to Indochina wrote in 1932 after the suppression of the Yen-Bai revolt which he blamed on too wide a diffusion of our ideas and on our excessively liberal policies.\(^2\) "Rather than undermine tradition,

\(^1\)Colonel X, commanding a zone (territorial division) in the Tonkin.

\(^2\)Mr. de Pouvourville, from the collection "How They Think."
it would be wise to rely on it and not do anything which might be contrary or alien to it.... In this manner, our successors will not have to face too many surprises as the future is revealed to them in the course of time."

This future must be prepared for by our overseas representatives. They must be more responsive to the ideologies of native movements, and stand ready to satisfy not only their material but also their emotional needs.

Colonel N, who had followed these events, commented in 1954 on the use of force relating to this same Yen-Bai incident: "Prewar revolts were brought to heel; these were short-lived triumphs that cost dearly! Force did more harm than good; the Tonkin village of X, which was shelled, was to remain a hotbed of revolt, and North Annam, which was occupied by small elements, was to see no more Frenchmen after 1945."¹

**EVOLUTION OF THE INSURGENCY**

An adversary animated by a racial patriotism and a new set of ideals based on Marxism gradually replaced the "black flags"¹ and Cochinchinese pirates, who were most often motivated by personal ambition, greed, or some local patriotism. Leaders educated in Paris or trained in China or even Moscow were recruited from among the mass of the population. These, recognized as the natural leaders of the areas from which they came, were able to influence opinion through the traditional appeals used to arouse native masses: xenophobia, anti-colonialism, etc. The Communist techniques of propaganda and indoctrination also helped them to quickly gain the support of the less fortunate classes.

This ideologic dualism, i.e., nationalism and Marxism, was paralleled by a dualism in the nature of the support from which the rebellion benefited. On the one hand, the Viet Minh made maximum

¹ Colonel X, zone commander in North Vietnam.
² See translator's footnotes at the end of each section.
use of the local resources it had secured for itself by intimidation and terrorism; on the other hand, it had the outside support of foreign nations as well as some French circles. It found, in fact, a certain degree of sympathy of an official as well as clandestine nature from within elements of our public and government. This combination of sympathy and material aid quickly allowed the rebels to pass beyond the phase of the armed bands which were characteristic of the year 1945. Due to these favorable circumstances and the passage of time, they passed from regular formations, to units of combined arms, and finally to major units.

PERMANENCE OF CENTERS OF AGITATION

What we have observed in Indochina confirms a fact already known in our African possessions: there exists a permanence or continuity in the centers of unrest. History and geography reveal that certain regions are traditional cradles of insurgent movements, and these later serve as preferred areas for the guerrillas.

It is in the provinces where the population has always shown itself to be proud, bold and independent that the revolt has taken on the most acute and intense forms (the Plain of Reeds, the region of Vinh, the mountains surrounding Langson, etc.). It is striking to compare some recent engagements with the history of certain battles which occurred during the conquest. The events were often the same and even happened at the same places. Some of the writings from Tonkinese Mandarins to our forces were written in the same vein as Viet Minh pamphlets.

The modern era was to add its own contributions to these traditional factors. The existence of a proletariat in the cities has facilitated urban disturbances (in particular those of December 19, 1946), and meanwhile the patience of the rural masses was rapidly being exhausted. The very nature of these preinsurgency conditions made it impossible for the solution to the problem to be found in the use of force alone.
The authorities responsible for law and order have to intervene more at the political, economic, and social level than at the police level. "Effectiveness requires that the task of maintaining law and order not be confused with that of countering the cause of unrest."

As long as the leaders of the revolt must exercise prudence and caution, we must not resort to severe repressive measures. "Rebel leaders will always try to burn their bridges and become outlaws. It is up to the authorities, therefore, to ensure that some link with these people can be continued so that they can eventually rally without losing face or prestige." ¹

PREPARATION OF THE ARMED FORCES

The very structure of our Armed Forces makes them ill-suited to the task of maintaining law and order. A period of incipient insurgency is thus very useful in that it provides time to prepare the Armed Forces and to alert reinforcements which are to come from other territories.

The Indochina War provides us with few positive lessons on this issue, but it does point up some of the deficiencies in our readiness measures. Many officers expressed concern that the Expeditionary Corps lacked a group of "area qualified" officers similar to "native affairs" officers available for North Africa.

A multiplicity of problems can only be resolved by qualified officers assisted as necessary by civilian officials. These include problems relating to the collection of intelligence, the conduct of special operations by underground forces, counterintelligence, etc., the recruiting and training of local forces as well as the assembly of general information, including local policies, as required by military commanders. In Indochina such tasks were of necessity almost always assigned to people who did not know the area and who neither spoke Vietnamese nor any of the local dialects, and consequently could not establish effective liaison with the inhabitants.

¹ Comments of Major X on the pacification of South Vietnam.
Specialists are indispensable from the very beginning of a pre-insurgency period, for it goes without saying that their recruitment and training cannot be the work of several weeks or even several months.

The preparation of the theater of operations is no less necessary. It should include in particular:

- General staff studies on command structure, territorial organization, and initial operations to be undertaken on the basis of two or three simple assumptions.
- A complete documentation on every region, to include sector area folders and transportation maps.
- Initial development of facilities as finances permit (lines of communication, naval and air bases, logistics installations, signal communications, etc).

The intelligence gathering activities should be organized by the identification of potential agents, the establishment of suitable contacts, and the creation of agent nets in hostile zones. (In Indochina, the difficulty of introducing agents into a region already under Marxist control was confirmed.) Thus, the first steps to establish agent nets must be taken well in advance.

**COMMITMENT OF FORCES**

When violence, sabotage, and rioting reach the stage when such acts can no longer be controlled by the police, it becomes necessary to use the Armed Forces. But it would be well to avoid certain mistakes, which Colonel X\(^1\) has emphasized as follows: "The physical presence of armed forces is necessary, but it does not follow that these must be actively engaged. To do so precipitately may be the signal for the beginning of open hostilities. Armed forces, most often used to protect critical areas and communications (these

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\(^1\)Zone commander in Tonkin, who had also traveled extensively in Indochina.
being the essential facilities required by the military, the govern-
ment, and the local economy) may assume either of two postures, the
one selected being dependent upon the situation and not upon any
fixed rule. Either they can reveal themselves, making a show of
force if necessary, or they can be discreet, securing their objectives
quickly but without ostentation. If it appears likely that the Armed
Forces are to be actively engaged, it is absolutely necessary that
this eventuality be anticipated:

- As to the selection of objectives: There is too often a
tendency to employ forces on secondary missions. Since force
is the final argument, its use must be decisive.

- Clearing, sweeping, and related types of operations often
yield deceptive results not compatible with the effort
involved. In these cases, they irritate the population and
demonstrate their relative ineffectiveness. Thus, they are
to be undertaken in the preinsurrection period only when
there is a certainty of obtaining significant results.

- As to duration: It must be strictly limited to the selected
action and must not be unduly prolonged. This means that
the precise nature of the mission and its purpose must be
carefully defined as well as the results which are expected
from it.

- As to procedures: The seriousness of the psychological
consequences arising from the engagement of armed forces
are such that the procedures to be used and the magnitude
of the forces to be engaged must be adequate to the task.
It is preferable to have short massive demonstrations rather
than a series of weak operations. In short, the principle
of economy of forces should be rigorously applied.

"While the engagement of forces under such conditions will create
problems for the commander, it must not be forgotten that what is
sought (beyond a definite but limited action) is a psychological
impact upon public opinion. All else are police actions and should
not be given to the Army unless the services specialized in such tasks are unable to accomplish them."

In conclusion, from the moment an incipient insurgency can be identified, it is essential to use the remaining time that may be available to prepare for eventual operations and to set up, if need be, a corps of area specialists.

When the use of armed forces becomes inevitable, their commitment must be undertaken with great care, for the psychological effect on the masses will be as important as any impact upon rebel units.

Translator's Notes

A "Black flags" was a term originally used to designate Chinese pirates who roamed the Tonkin highlands until 1910. It later continued in use as a term to identify bandit groups.

The events of December 19, 1946, were more than "urban disturbances" in that this date marks the beginning of open warfare between French and Viet Minh forces.

French forces arriving in Indochina at the end of World War II were organized and equipped as were comparable U.S. units.
II. PSYCHOLOGICAL ASPECTS OF THE STRUGGLE

Warfare always involves a conflict between two wills. In addition, civil war brings two doctrines into opposition. There is yet another opposition when one of the adversaries is inspired by Marxism—that of differing concepts of world affairs.

The multiple causes which led to the triumph of the Viet Minh ideology over the social rigidity and over the governmental weaknesses of traditional Vietnam are on the whole too well known: "One could not reestablish a new order where there existed constitutional and social disorder."\(^1\,^2\)

There is not one French fighting man who has not expressed his bitterness and often his anger at the contradictions that he, as a soldier, was obliged to uphold. For instance, the view expressed below is relatively mild: "In 1946, to carry out our duties, we embarked at night between two rows of guards as if we were malefactors. Returning in 1953, we were searched by the Vietnamese Customs as if we were tourists."\(^3\)

The majority of the statements are more bitter and reflect the opinion of these two officers: Captain P: "If we were unable to effectively fight Communist propaganda, it is because we did not offer a positive ideology as an alternative to Communism from which would have come a doctrine and a faith." Colonel N: "The Franco-Vietnamese backed everything that was dying in this country: the traditions, the old people, etc. The Viet Minh used all that was new and emerging: desires, ideals, youth, etc."

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\(^1\) Commander X.

\(^2\) The Viet Minh made much of statistics such as these: 58 percent of Vietnamese families do not own an inch of land, 39 percent own less than 5 hectares, 2 percent own from 5 to 20 hectares, and 0.34 percent possess more than 50 hectares (translation of document No. 953/FTNV/2 of April 6, 1955).

\(^3\) Lieutenant Z of the F.T.S.V. [Ground Forces, South Vietnam].
The conduct of the war at the diplomatic and political level was beyond the responsibility of the Military Command. However, the fact remains that "ideology was one of if not the principal weapon in the struggle and could not be ignored, since the support of the people was the issue and our adversary was Communism."\(^1\)

The Expeditionary Corps was unfortunately denied the right to use this ideological weapon except in certain domains and then only under severe restrictions. Thus, this section will simply recount our successes and failures in those areas where the several Commanders in Chief were able to engage in psychological warfare with considerable reservations.

**IMPACT ON THE VIETNAMESE PEOPLE**

In the zones that our units attempted to sanitize or preserve from Viet Minh contamination, it was normal to use propaganda as well as arms.

But the troops and the cadres were, with rare exception, rather poor at persuasion and indoctrination. First of all, they lacked training: "Political action is not part of our training...our cadres were ill at ease and unhappy over problems concerned with making contacts with the population, of propaganda, etc."\(^2\) "The majority of the cadres revealed again and again a profound ignorance on the subject of civic action...these destroyed what others had worked so hard to build. Take, for example, the village of D, on the Bassac. One of our platoon leaders had succeeded by dint of much patience in winning over and resettling 2,000 inhabitants in what had been an abandoned area. This village was the pride of my company. Unfortunately, upon our departure, an incompetent took charge and lost the confidence of the people. It did not take more than 15 days for D to be entirely abandoned and burned by the very people who had inhabited it, who preferred to return to the Viet Minh zone rather than put up with the

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\(^1\) Lieutenant N, company commander in North Vietnam.

\(^2\) Commander D, commander of s/sector F.T.C.V. [Ground Forces, Central Vietnam].
annoyances of an unsatisfactory commander and of military personnel who were ignorant of the political aspects of their mission.¹

In attempting to undertake civic action in their sectors, numerous officers saw: "All their efforts destroyed in a few days by the passage of a mobile unit that did not know the local conditions, and left without having killed a single Viet, but having alienated from us forever those who had been giving us information and fighting with us against the Viet Minh."²

In addition to a general ignorance of political factors, very few officers knew the country and the language: "We often asked the local commander to use propaganda. But how can he? He does not speak Vietnamese and knows neither the customs nor the country. For these missions, we need preparatory stages, but above all a large core of real specialists."³ We will not pursue this point since the necessity for a corps of officers qualified in native affairs has already been emphasized.⁴

The influence a commander could expect his troops to have on the population was also handicapped by the very form of the operations. "I noticed," writes Commander P (F.T.N.V.), "that psychological action and military action are closely interconnected. When the Viet wiped out a post, blew up a train or vehicle, or carried out an ambush, our counter actions had little effect upon the population except for the fines imposed or our reprisals. When we mounted an operation on a Viet entrenched in a village, however, the population was subjected to the same destructive violence as was the Viet. In both cases, Viet Minh propaganda provided the masses with a reason to hate us. Thus, we lost both recruits and intelligence." These remarks apply to those zones where we fought essentially against what may be called deterioration from within.

In the regions under Viet Minh control, where we sometimes made forays, we almost always had to pay for military advantages by

¹Captain N, district commander F.T.S.V.
²Captain R, Laos.
³Commander L, F.T.N.V. [Ground Forces, North Vietnam].
alienating the people. The people who initially believed in the return of the Franco-Vietnamese forces observed a benevolent neutrality toward us and even gave us some tokens of loyalty, later found themselves abandoned to Viet Minh reprisals. Therefore, a raid or a foray into a noncontrolled zone should never be associated with any attempt to rally the population.

Considering how unfavorable the conditions were, it is easy to explain the mediocrity of the results obtained. The utilization of modern propaganda methods had not, however, been totally neglected.

From 1946 to 1952, a "propaganda section" was included in the staff of the Commander in Chief and in those of the territorial commanders. This staff section provided both instructional guidance and material support to the zone and sector intelligence officers.

In 1953 a "Bureau of Psychological Warfare" was added to the staff of the Commander in Chief. This organization received ever increasing funds.

Courses for training propagandists were organized. All types of printed matter, bulletins, and posters were distributed; exhibition rooms were set up; mobile units were equipped with sound amplifiers; millions of pamphlets were air-dropped and airplanes equipped with loudspeakers were used frequently.

This belated effort was, however, handicapped by the scarcity of competent personnel. For "modern ideological wars require personnel trained in political action and propaganda. Aside from questions of doctrine, there is a technique with which the greatest possible number of officers must be acquainted, and in which a certain number should specialize."²

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¹ Thirty-one million in the month of January 1951 alone.
² Commander S, commander of s/sector F.T.S.V.
IMPACT ON ENEMY TROOPS

While direct propaganda on Viet Minh troops resulted in only a very small number of conversions or deserters because of the strong hold of the political cadres on the soldiers, we did have considerable success with prisoners.

The P.I.M.\(^1\) were handled in several ways. Those who did not belong to the regular Army were, after a probationary period, transferred to labor units from which it was never difficult to recruit coolies who willingly served in our forces. These almost always became devoted and extraordinarily faithful auxiliaries to our troops. Without an intentional and concentrated psychological effort, life among our troops succeeded in the great majority of cases in making of the former adversary a kind of unarmed auxiliary who came to share in the esprit de corps of their units.

"In my battalion," says Captain X (F.T.S.V.), "we rapidly absorbed our 'P.I.M.' and there were many who gave positive evidence of loyalty (underground searches, for example) and asked to become partisans.\(^8\)

In regard to P.I.M. who had to undergo a detention period, the Psychological Action Service was able to make a significant impact from 1952 onwards. In the camps where this service operated, the majority of prisoners, once sorted and separated from the diehards, showed themselves to be receptive to indoctrination (on Vietnam, the Vietnamese government, the National Army, the prospects open to the youth of Vietnam, etc.), and capable of receiving technical and intellectual training.\(^2\)

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\(^1\) These personnel, designated under the general name of P.I.M. (Interned Military Prisoners), fell into different categories according to their origins (regular, guerrilla, political cadre) and their degree of contamination.

\(^2\) For example, 2,000 P.I.M. were treated thus in Camp X; in the Tonkin in 1952-1954, 900 served in the Vietnamese Army, where they served with honor; 1,100 were able to be released.
These two completely different kinds of results illustrate that political reeducation is possible. In addition, they condemn a penal system that throws together, without distinction, all prisoners into the same camp. An effort to assure a degree of comfort to the captives and, of course, the suppression of all brutality, is essential for the creation of an atmosphere conducive to rehabilitation.

VIET MINH INFLUENCE ON OUR TROOPS

With the exception of indigenous units recruited from ethnic minorities which were always hostile to the Viet Minh because of racial differences, the enemy found a favorable ground for its propaganda among native personnel in our units and, of course, in the Vietnamese Army.

The Dich Van movement (literally, to approach the enemy) was carefully nurtured by the Viet Minh National Defense Ministry. Abundant documentation proving this fell into our hands.

With regard to the Vietnamese nationals, the following arguments were used: "The Vietnamese soldier is not an enemy; he is a 'stray'—at the most, a rebel." If he rallied he will be treated with consideration. Simultaneously, pressure—in truth, blackmail—was used against his family.

The proximity of our forces to those of the enemy in the two deltas and in the coastal zone, together with the responsiveness of the population to the Viet Minh (either because of fear or simply because of a "wait and see" attitude), all contributed to the effectiveness of the Dich Van program.

These conditions were the basic cause of the loss of most posts where the garrison included natives. We should also note that all Vietnamese units included a Dich Van cell either active or dormant.

Insofar as the troops of the French Union were concerned, the Viet Minh commanders acted through the intermediary of the French Communist party; they also employed leaflets and even, on occasion,
women. There is no question that the defeatist propaganda coming from France was most demoralizing even though it did not result in appreciable defections.  

With regard to other elements of the Expeditionary Corps, the Viet Minh made large use of tracts, issued in several languages and well suited to the circumstances. In certain cases they used interpreters as well, who, with loud speakers, harangued the garrisons of the post under attack.

On the whole, this propaganda failed, for conditions in the Viet Minh prisoner camps were too well known for our men to believe appeals signed by old comrades who had fallen into enemy hands.  

The Communist indoctrination which the enemy tried to inculcate into our prisoners had only superficial results; there was too great a disparity between the explanation of the world situation made by the political agents, and what the captives themselves knew of it. There also was too great a gap between the words and the cruelties which were the daily lot of our men. The hope of being freed occasionally influenced individuals to respond to Marxist propaganda, but the great majority of repatriates were usually quick to return to our way of thinking.

The failure of Viet Minh preaching again confirms the necessity to base all attempts of indoctrination on good treatment and on a gradual increase in personal liberties.

DECEPTION OPERATIONS

Since the time that the Anglo-Saxons made much of their "deception operations" during the period 1940-1945, it has become the habit

1 The number of French defectors in eight years of war did not exceed a few dozen and in most cases the defection was provoked by a Vietnamese woman. On the other hand, many of these deserters later tried to escape.

2 The number of African, Legionnaire, and North African deserters reached several hundred in eight years of war, but the great majority of those won over later tried to escape.
to define as "psychological war" activities which, since the siege of Troy and the struggle between Horace and the Curiales, have been called Ruses of War.

In effect, a deceptive action "whose goal is to win from the enemy a psychological victory by leading it to a false interpretation of our intentions and in this way lessening the possibilities of a counterthrust,"¹ is always a faked action, whose execution is more or less elaborate. But modern propaganda methods have singularly enhanced the ability to expand upon false movements, false orders, and false communications activities. From this point of view, but only from this point, can one link psychological warfare to the noisy orchestration of a ruse.

Organization of a Deception Operation

The decision to launch a deception operation can only be made by the Commander in Chief. But he must have at his disposal a "permanent general staff for deception" who, informed at the right time of the long-range intentions of the commander, would be able to suggest to him the appropriate stratagem. This group could then "with maximum effectiveness and within the required time limit, initiate the action of the specialized elements involved."¹

Once the decision has been reached to simulate a plan, it becomes necessary that "the deception be conducted by an operational staff which is separate from the one concerned with tactical operations."¹

In the preparation of a deception operation it will be necessary to recall that the object is essentially "an abstract element: the intelligence and morale of the adversary,"¹ thus there is the obligation to seek solutions related to the characteristics of the enemy and of the population, and to our relations with the latter.

It will be necessary to calculate with precision the time required for the false information to reach the enemy commander and produce

¹Study of the general staff of the Commander in Chief on operations of deception.
the hoped for reactions. "Like in a bridge game, the adversary must be influenced throughout the course of the game by certain announcements, or certain defenses, or by the manner of clearing certain 'long suits' to press him or to hide from him for as long as possible the decisive card, so that when he does see the light it is too late for him to react effectively."\(^1\) This done, one could concurrently use: "Spoken propaganda, written propaganda, whispered propaganda, the spectacular visit of important people, etc...."\(^1\)

It goes without saying that a deception "must remain secret until the end of its 'play' and fool both friendly as well as enemy forces."

"Its goal is only achieved when everyone is taken in by the game. From the time the action is initiated, everyone and all echelons must play the game, even if the scenario shocks them or if they do not understand it."\(^1\)

The rules which have just been stated were not completely upheld during the campaign, but their empirical application gained us several successes. For example, the evacuation of Na Sam on August 12, 1953, was preceded by a campaign of false announcements which deceived all the participants. Operations PELICAN and GERMAINE at the end of the hostilities were examples of the opportunities offered by modern propaganda methods.

PELICAN, in October 1953, aimed at creating a threat on the coasts of Thanh-Hoa, while Operation MOUETTE was launched about 50 kilometers in the interior. A false naval action and a fortuitous incident resulted in complete success, "since it permitted the deployment of the MOUETTE force against the Viet Minh Division 320 while immobilizing the 304th, and thus made it possible to deal with the former without being harassed by the latter."\(^1\)

While the Geneva negotiations were in progress, Operation GERMAINE had as its goal the "persuading of French, Vietnamese and international as well as Viet Minh public opinion that a serious reinforcement of the Tonkin delta was in progress and would be completed before the 15th of June."\(^1\)

\(^{1}\)Study of the general staff of the Commander in Chief on operations of deception.
We embellished certain facts; the arrival of a battalion of paratroopers in the Tonkin was related to an announcement concerning the imminent reconstitution of two mobile units; the arrival in Saigon of the cruisers Gloire and Montcalm was spoken of as the lead element "of a large squadron including other vessels and embarked land forces, that would disembark in the Haiphong region." A battalion leader captured at Dien Bien Phu reported that "according to the declarations of the spokesman for the Viet Minh commander in the officers' prison camp, the latter had really believed in a substantial reinforcement of our Expeditionary Corps. In the beginning of July 1954, this possibility seemed to worry him greatly."

Translator's Notes

^The Colonial Army did not have "area specialized officers" because its personnel formed the major garrison forces for all overseas possessions except North Africa, and hence were rotated from one world area to another.

^"Partisans" correspond to the Civilian Irregular Defense Groups (CIDG) sponsored by U.S. Army Special Forces. They did not, however, have any specific geographical or organizational affinities.
SECOND PART

*****

THE WAR WITHOUT FRONT

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"Material inferiority in front of the enemy is not serious. What is more important is the mobilization of the people. The people must be a great ocean in which the enemy will drown itself..."

"What is the real bulwark? It is the people..."

Mao Tse Tung
III. INTRODUCTION

On December 19, 1946, vast areas of Tonkin and Annam fell into Viet Minh hands and became, literally, provinces of a new state. The Ho Chi Minh government, even though it was condemned to live with difficulty, nonetheless succeeded in slowly establishing administrative and judicial systems and some public services, all the while deriving its sustenance from a rudimentary economy.

The boundaries of some of these territories stayed flexible during the eight war years, notably in South Vietnam. In the Tonkin, however, the year 1951 was marked by a positive demarcation of the Viet Minh zone where, by constructing the fortified belt in the delta, we revealed our inability to reconquer the area. We tried nevertheless to retake certain fiefs from the enemy. Thus we went to Bac-Kan and to Cao-Bang in 1947, and we launched Operation ATLANTE in 1954 to attempt the reconquest of a portion of the coast of Annam.

Other operations led us to take the offensive in Viet Minh territory, either in the form of raids,¹ or by penetration into enemy areas in the hope of attracting and destroying its forces.²

Such activities were but incidental. The real and continuous struggle took place in the regions we wished to control, namely, the two deltas and certain portions of the central coast where there was a high population density and the most fertile lands. The "war without front" that was fought during eight years had as its basic goal the support of a population most often found in villages.

Viet Minh influence varied from one area to another. It changed in the course of time, but an almost constant exchange continued between Communist areas and disputed zones; a replenishment of armament and matériel—trickled in each night from the exterior to

¹For example, Operation LORRAINE in 1952 and Operation MOUETTE in 1953.
²For example, the affair at Hoa-Binh in 1951, at Na-San and finally at Dien-Bien-Phu.
the interior, while a thousand infiltrations of messengers, political agents, or of more or less important civil servants kept the inside Viets in communication with those outside. In addition, regular units and certain provincial units came to the heart of the deltas, and then returned to the camps in the peripheral regions. The magnitude of these human and materiel exchanges naturally determined the intensity of the battles.

In South Vietnam support for the rebels was poor and had to come from far away. By contrast, in North Vietnam the operations in the interior of the delta were always influenced by the presence of main force Viet Minh units in the vicinity and by the relative proximity of sources of supply in China starting in 1950.

Our forces in North Vietnam constantly had to ward off interventions by main force units, and this fact interfered with our conduct of the ground war in the Tonkin. Thus, the lessons related to the reestablishment of order which might be applicable elsewhere are more easily found in South Vietnam than in the North, where the problems were essentially unique.

Ground action may take multiple forms, but it generally involves three basic considerations:

- Free use of the road and river communications nets required for the support of the forces and for their movements, from which comes a policy of control of axes of communication.

- Progressive sanitization of various regions through a policy of area control.

- Countering the causes of dissatisfaction among the people and disarmament of the rebels through a policy of pacification.

These three types of activities were essentially the task of the territorial troops, and above all of the so-called "fixed" units. They will be the subject of three separate sections.
The mobile forces only accounted for a fraction of the operations aimed at gaining area control. But this was the most difficult fraction, for they had been given the task of destroying the most active and best armed bands. Nevertheless, the search and destroy operations of mobile forces were similar to those of territorial units. The only difference was in the size of the units and their ability to engage a stronger enemy. It thus seemed desirable to examine in a separate section the type of operations which both territorial or mobile units engaged in. Finally, because of the important part played by fortifications during the campaign this subject has been covered under its own heading.

Translator's Notes

'At the end of World War II, British forces were to receive the surrender of the Japanese in Indochina below the 16th parallel, while the Chinese were to receive the surrender of the Japanese to the north. The initial element of General Gracey's forces, a Ghurka brigade with 150 French military personnel attached, landed at Tan Son Nhut air base on September 12. This was followed by other elements that included 550 additional French within the few weeks that followed. Eventually, the first contingent of the Expeditionary Corps, an element of the 2nd Armored Division under Colonel Massu, arrived in Saigon on October 22, 1945. This was followed by the 9th Colonial Infantry Division in November, by a brigade from Madagascar in December, and by elements of the 3rd Colonial Infantry Division beginning in 1946.

The Expeditionary Corps continued to grow in the course of time and by 1950 there were 150,000 French Army Forces in Indochina, together with 12,000 Navy and 5,000 Air Force personnel. In addition, some 200,000 natives had been recruited into auxiliary formations. Finally, in January 1954 the Expeditionary Corps and the Armed Forces of the Associated States had reached a total of 497,450 officers and men distributed as follows:
TRANSLATOR'S NOTES (cont'd)

FRENCH EXPEDITIONARY CORPS

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<tr>
<th>Categories</th>
<th>Officers</th>
<th>NCO's</th>
<th>Other Enlisted</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>French</td>
<td>5,434</td>
<td>21,877</td>
<td>25,312</td>
<td>52,623</td>
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<tr>
<td>Legionnaires</td>
<td>486</td>
<td>2,388</td>
<td>15,836</td>
<td>18,710</td>
</tr>
<tr>
<td>North Africans</td>
<td>47</td>
<td>2,307</td>
<td>34,366</td>
<td>36,720</td>
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<tr>
<td>Africans</td>
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<td>795</td>
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<tr>
<td>Female personnel</td>
<td>3</td>
<td>2,457</td>
<td></td>
<td>2,460^a</td>
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<tr>
<td>Native regulars</td>
<td>87^b</td>
<td>4,015</td>
<td>49,603</td>
<td>53,705</td>
</tr>
<tr>
<td>Native auxiliaries</td>
<td>289</td>
<td>3,561</td>
<td>47,922</td>
<td>51,772</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>6,364</strong></td>
<td><strong>37,400</strong></td>
<td><strong>191,957</strong></td>
<td><strong>235,721</strong></td>
</tr>
</tbody>
</table>

Notes:  
^a includes 380 nurses.  
^b includes 63 interpreters with integrated officer ranks.  
^c includes 998 interpreters with integrated NCO ranks.

ARMED FORCES OF THE ASSOCIATED STATES

<table>
<thead>
<tr>
<th>Categories</th>
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<th>NCO's</th>
<th>Other Enlisted</th>
<th>Totals</th>
</tr>
</thead>
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<td>Personnel detached from the French Expeditionary Corps</td>
<td>882</td>
<td>3,457</td>
<td>260</td>
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<td>French</td>
<td>46</td>
<td>2</td>
<td>9</td>
<td>57</td>
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<tr>
<td>Natives</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personnel in the National Forces</td>
<td>5,409</td>
<td>21,816</td>
<td>180,086</td>
<td>207,311</td>
</tr>
<tr>
<td>Native regulars</td>
<td>291</td>
<td>3,273</td>
<td>46,198</td>
<td>49,762</td>
</tr>
<tr>
<td>Native auxiliaries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>6,628</strong></td>
<td><strong>28,548</strong></td>
<td><strong>226,553</strong></td>
<td><strong>261,729</strong></td>
</tr>
</tbody>
</table>

From a statutory consideration, the military forces in Indochina at the end of the war thus included the French Expeditionary Corps and the Armed Forces of Vietnam, Laos, and Cambodia. The Expeditionary Corps included metropolitan and colonial formations made up of French, Algerians, Moroccans, Senegalese, and Legionnaires. The French units, with the exception of the airborne, included substantial numbers of Vietnamese, Laotians, and Cambodians who had been locally recruited. There were also partisan and commando units with French cadres; the personnel of those belonging to the Army were generally natives, while those in the Navy were primarily French. Finally, the French also exercised operational control over the several so called "sect forces"
in accordance with separate agreements made with the commanders of these formations. These "sect forces" included the Cao Dai, the Binh Xuyen, the Hoa Hao, and the Christian militias.

Once the creation of separate indigenous armed forces was undertaken, the policy pursued was to transfer territorial responsibility to these as soon as practical. The long-term objective was to eventually relieve the Expeditionary Corps of the pacification mission and use it only for offensive operations.
IV. ESSENTIAL ELEMENTS

COMMAND ORGANIZATION

Throughout the campaign the military territorial organization was based upon the geographic divisions of Indochina. The Territory corresponded to one of the large natural regions of the country; its commander exercised command over assigned ground force units and, in addition, had available air force and river force units in support. The Zones were subdivisions of the Territory and were in turn formed of Sectors. These last were further divided into Subsectors which generally reflected the combat capabilities of a reinforced infantry battalion.

The major concern of each command echelon was the constitution of reserves to carry out the more important operations. The only problem was to decide what the proportion between mobile forces and fixed forces was to be. This problem will be treated later.

It also must be pointed out that as both sides increased their capabilities and the Viet Minh undertook major operations, we in turn had to create Operational Commands of ever increasing magnitude. The juxtaposition or superimposition of these Operational Commands on the existing Territorial Commands was not always conducive to the orderly conduct of the pacification.

INTELLIGENCE

It was often affirmed that one of the essential causes of our failures was the inadequacy of our intelligence. Yet hardly a day passed that the Commander in Chief and his many subordinates could not read, on the maps prepared by their intelligence sections, the complete order of battle of the Viet Minh units, with an accuracy which was often greater than, and rarely less than, 80 percent.

Nevertheless, battalion commanders, detachment commanders, and even the commanders of mobile groups were often victims of the most brutal surprises. Every day vehicles were blown up by road mines, patrols either found nothing or fell into ambushes, and when units
penetrated into a village, they lacked the information that would have allowed them to screen the people and identify the nonuniformed rebels.

It is clear that a distinction must be made here between the precise, deep intelligence which was always available for the High Command, and the immediate and local intelligence that was almost never obtained by subordinate units. Thus it was written: "It was the Commander in Chief who kept the battalion commander informed while the latter was never able to reciprocate."

The information sources available to the intelligence sections were normal, and the war in Indochina brought out no specific lessons; intelligence techniques and methods were adequate. On the other hand, at the lower echelons, particularly at the subsector level, the failure of intelligence was due to several reasons; foremost among these was the lack of interest displayed by certain commanders in the gathering of information. Too often in the lower echelons the importance of the intelligence officer's function was overlooked. Frequently replaced, often assigned irrelevant duties, he tended to become a cog in the whole administrative wheel. It could be stated: "A good intelligence officer is worth a whole battalion; however, no commander in fact ever deprived himself of a battalion in order to have a competent intelligence officer."¹

Personnel charged with gathering intelligence, especially aerial photographs, often lacked the means for doing so. The ex-intelligence officer of a subsector writes, for example, that in 12 months he was unable to obtain photo coverage of his area. Such a fact was not an exception; even in Tonkin the photographs were never up to date and in sufficient quantity.

One could equally deplore the quantitative and qualitative insufficiency of the interpreters' corps, the absence of short-distance

¹Captain Z, sector intelligence officer (F.T.N.V.).
listening devices, and finally the nonexistence of observation platoons who, in many circumstances, would have been able to locate Viet Minh mortars and artillery pieces. But these deficiencies were of little importance when one considers the failure of the essential source of intelligence in a ground war—the people.

It is within the population that one must seek the wealth of reliable information, which permits the isolation of those few individuals who have taken up arms and put themselves outside the law. Unfortunately, this reveals a vicious circle, for it is certain that intelligence is only provided willingly by the people where pacification is making progress. In those rare cases where we were able to profit from such support, the results were excellent. "Informed, for once, by a reliable source," says an officer, "I was able in one hour on a certain night to capture all of the political cadres of a rebel village with a handful of men, whereas ordinarily we could not have entered this village with less than a company."  

The task of gathering information requires adequate numbers of stable and experienced personnel. Here we must again emphasize the importance of a corps of area specialists versed in native affairs. Such a corps will always constitute the framework of an intelligence service. Knowledge of the language, possession of ample files, and the possession of a valid doctrine will give the Native Affairs officer all of the trump cards; it will then suffice for him to set up assistants to extend his field of investigation... If circumstances were such that we were unable to benefit from native sources of information, we can nevertheless bear witness to the great value our adversary derived from them. This was in fact foreseen: "Like all self-respecting Communist regimes, the Viet Minh establish and maintain themselves thanks to an extremely extensive and efficient organization of the Secret Services and of the police."  

1Modern devices were only experimented with at the end of the hostilities.
2Lieutenant X, intelligence officer in the Tonkin.
3Excerpt from a notice of the Headquarters of the Army Forces, North Vietnam.
In addition to the political cells that were implanted in most villages and which formed an extremely close-knit checkerboard of intelligence agencies, the Viet Minh command had established within the Army a special branch formed of NCO's and other ranks who had revealed unusual aptitude for intelligence work and had received extensive training in this field. The "Trinh-Sat" was represented at the company level by one NCO and three men and at the division level by a special company.

Acting in little teams or alone, working sometimes in patrols, sometimes as agents, sometimes supported by an organized unit, sometimes by sympathizers in the villages, or perhaps only trusting in themselves, the men of the Trinh-Sat patiently observed our military posts, our installations and our movements, listened to our chit-chat, tested our defenses, interrogated the villagers, made efforts to capture a prisoner or to get hold of a document, etc. There is not one Viet Minh action, whether it be an ambush on a road or attacks on Dien Bien Phu, that did not involve the use of such intelligence elements, sometimes for as long as several weeks or even months. All the documents which fell into our hands attested to the wealth of information which the enemy had procured solely through this organization.

We should compare here the Dich-Van activities to the Trinh-Sat which have already been discussed.

The enemy's goal was to create within each of our native units and a fortiori in each Vietnamese formation, a Dich-Van cell¹ whose members were to try and obtain responsible positions. As a matter of fact, the adversary did not hesitate to tell his agents to carry out their duties so as to be considered among the best of our soldiers and non-commissioned officers up until the day they received the order to reveal themselves.

To accomplish this infiltration the Viet Minh subverted the individual either through the intermediary of his relatives, or by

¹Often two, that did not know of each other's presence until the day of action.
A. Relation of Trinh-Sat units to Viet Minh tactical units

B. Organization of the Trinh-Sat platoon

NOTE:

a. This organization is for administrative purposes; the composition of a Trinh-Sat operational detachment, for each mission, is determined according to need.

b. Each Trinh-Sat unit is commanded by an individual from the echelon superior to that of the unit; for example the platoon leader and his assistant are from "company cadres".

c. The Trinh-Sat combatant is most often a squad cadre.

Fig. 1—Schematic organization of the Trinh-Sat
the threat of reprisals against his family. As a matter of fact, we
found an excellent counter to this subversion through family ties,
by regrouping such families in areas where they would not be subject
to adverse influences. ¹ In addition, certain systematic protective
measures proved effective when a unit commander had doubts about some
of his personnel: "transferring within garrisons and field units,
the unscheduled rotation of sentries, the forming up for sorties
which were not to be carried out, etc...."²

THE "BALANCE SHEET" OF INSECURITY

The gradual increase of Viet Minh capabilities and the extension
of their influence in certain areas made it necessary to pay higher
and higher costs for the security of our installations and our opera-
tions.

One of the essential characteristics of a war without front was
this immobilization of a large part of the forces strictly for
security duties. This was commented upon time and again. We will
cite here only a few typical examples: Mobile units had to assign
approximately one-quarter of their personnel to protect their artillery,
their command posts, and their other heavy equipment. More than one-
third, if not half, of the infantry formations, either fixed or mobile,
were used for guard duties. The surveillance of a 20-km section of
road cost us the equivalent of one infantry battalion and one battery
of artillery, while the enemy could render the same area insecure
with only one rifle company. In the more secure areas, we needed
one infantry battalion plus the auxiliaries required to man several
watch towers to control 40 km of road threatened by one or two
enemy platoons. When it was necessary to search an area, a complete
security screen had to be deployed. "If movements were slow, it was
less because of the difficulty of the terrain than because we had to
search everything, see everything, go through everything, and distrust
everything."³

¹It was with this in mind that "camps for married people" were
established within the enclosure of posts or rear bases.
²Lieutenant X, commander of a company of North Vietnamese
auxiliaries.
³Battalion commander Y.
These tasks would have been easier if we had had more precise information on the local enemy. But when one has not paid the price for such information, one has to meet the cost of security by a heavy expenditure of resources, even though this provides no positive guarantees.
V. THE CONTROL OF COMMUNICATION AXES AND CRITICAL AREAS

From the time that a rebellion takes hold in a given area, it becomes necessary to: (1) organize and deploy forces to ensure the free use of a minimum number of road and river axes of communications, if any exist, and (2) establish one or more secure bases as required to support field operations.

The security of communication axes has been a major and continuing concern. From the very beginning we had to accept the fact that because our communications net was extensive and often involved difficult terrain, we could only provide security for certain routes, and then only during the daytime. To extend this security throughout the night and along roads deep in the forest or in the foothills would have required an inordinate number of troops.

With reference to waterways, freedom of access could only be ensured on most of them, in South as well as in North Vietnam, at the cost of an ever increasing effort to sweep mine-free channels ahead of river convoys and provide these with the necessary fire power to break through ambushes.

The control of land communications was obtained by:

- Establishing a chain of military posts, to provide security for critical points along specified routes. Such posts would maintain visual surveillance over certain sections of road and could extend security over more distant sections by calling in mortar and artillery fires.
- Using patrols to conduct periodic sweeps along the routes between posts. These patrols would normally leave small detachments along the way to provide flank security.
- Maintaining reserve forces, sometimes with armored elements, at selected posts ready to intervene as required.

The size of the forces, the number of posts, and the distances between them were generally determined by the security conditions prevailing in the area.
On the whole, the security of so-called controlled axes was always relative.\textsuperscript{1} Our vehicles and troops could be taken under rebel fire at ranges of 800 to 1000 m at any time, or else fall into an ambush set up after friendly patrols had passed (for example, by soldiers dressed as civilians, or even as women), or they could be blown up by an uncleared road mine.

The control of waterways was exercised in a comparable manner, but there were far fewer posts. Except on the very busy waterways or where the width of the river provided some degree of protection, movement was generally restricted to convoys which were heavily escorted and were preceded by minesweeping formations.\textsuperscript{2}

\textbf{DEFENSIVE EFFORTS ALONG COMMUNICATION AXES}

The efforts we had to undertake to control a route did not consist only of the construction of military posts.

Experience had shown that it was just as necessary to:

- Cut down trees and clear the brush up to a depth of 100 to 200 m on each side of the road, and to prohibit the cultivation of certain long-stemmed plants (corn, sugar cane, etc.) in these same areas.
- Asphalt the roads to make it more difficult to hide mines and booby traps.

Finally, it became absolutely necessary to clear the inhabitants out of villages located less than 500 m from the road. This unpopular measure was reluctantly undertaken because our men too often were ambushed when moving through these very villages whose inhabitants willingly or unwillingly sheltered the Viet Minh regional units.

An exception to this rule can only be made for those areas whose people have given evidence of their good will by the creation of local militia and by regularly supplying information.

\textsuperscript{1} Not including those rare zones that had actually been pacified.
\textsuperscript{2} See the section on riverine operations.
THE SYSTEM OF TOWERS

The problem of maintaining observation over the whole of an axis during the day led to experimentation with a system of watch towers conceived by General de la Tour. This was first tried in South Vietnam in 1948, and then extended to Central Vietnam.

"The watch towers were field works manned by several men (five to six auxiliaries) established along the length of a road (generally within sight of one another, and at an interval of approximately 1 km) in order to:

- Prevent the cutting of the road, protect local facilities, observe movements, and insure free access.
- Assist vehicles and contribute to their protection in case of attack."

Certain towers, called "mother towers," were provided with larger forces and increased fire power.¹

In the case of an ambush on a convoy, personnel from these positions sounded the alarm and halted all traffic while mobile elements from specified military posts quickly moved into the area. This procedure yielded excellent results at the beginning, but it quickly became ineffective. From 1950 on the Viet Minh in Central Vietnam began using shaped-charge projectiles fired from weapons delivered to them by China. Masonry was unable to stand up under such fire, and the small garrisons of these field works would often avoid sounding the alarm, preferring to abandon their position rather than to expose themselves to certain destruction.

This experience thus proved that when a rebellion cannot be quelled quickly, surveillance over communications can only be effected by a system of strong points which form the backbone of a defensive system.

¹ Instruction passed out to forces in South Vietnam.
NATURE OF MILITARY POSTS

The number of military posts never stopped increasing throughout the campaign and their extreme variety reflected our changing concepts on the subject of fortifications.\footnote{This evolution was, as a matter of fact, similar enough to the one we were able to observe in Europe during the last century.} Initially, the rebels had only automatic weapons and grenades. To stop their assaults, brick towers, earthen walls, and bamboo hedges were sufficient. At the same time we wanted high structures to provide improved fields of fire over the flat rice lands. However, with the appearance of Viet Minh mortars, such positions with their flimsy superstructure were totally inadequate. Thus, to provide protection against shellfire we turned again to digging in and the use of masonry walls covered with earth. The defenses so organized included a system of flank positions within mutually supporting distances. The rectangular or triangular dispositions which resulted led eventually to the development of blockhouses based on the use of strong retaining walls fronted by steep earth slopes. In this fashion, the triangular military posts constructed in South Vietnam starting in 1951 bring to mind the image of certain fortifications conceived by Brialmont. In all cases a single or double apron barbed wire obstacle was used, but the use of ditches was less frequent. In addition, the necessity for an elevated observation post led to the retention of at least one lookout station in the center of each military post. The appearance of Soviet (S.K.Z.) rocket launchers provided by the Chinese to the Viet Minh rendered these works obsolete. A fortunate countermeasure to these weapons was found in the use of metal grills to cover the more exposed firing points and observation points. At the same time we took to building observation towers with their bases deeply imbedded in protective earth. But a satisfactory solution could only be found by turning to concrete. It is thus that the Tonkin type of strong point was born.

The interior open area of the military post that mortar shells could easily render untenable in case of attack was abolished and no ramparts were built. Thus, all that appeared above ground were the
three or four blockhouses required to cover the wire obstacle with flanking fires. These fortifications represented a compromise between those advocated in 1913-1914 and those developed in certain parts of the front during the winter of 1939-1940. However, the occasional use of tank turrets mounted on the roof of some blockhouses and the emplacement of mortars deep within other installations lent a modern note. These strong points had been initially conceived for the defense of the northern approaches to the Tonkin delta, when Marshal de Lattre anticipated that the end of the year 1951 would bring a Sino-Viet Minh offensive. Eventually, this type of fortification was extended over all of the circumference of the delta\(^1\) and also appeared on certain roads. Incident to these developments only a few simple improvements were made.\(^2\)

Until 1953 this type of fortification impressed the Viet Minh, who rarely attempted to assault it. Nevertheless, the attack on the post of Yen Vi, May 26 and 27, 1953, even though unsuccessful, demonstrated that the combination of artillery, mortar, and rocket fires could be decisive. The enemy took a terrible punishment from emplaced weapons, but his assault teams had little difficulty in opening gaps in the wire and then moving into positions from which they could place explosive charges mounted on bamboo poles in the firing ports, or against the steel doors, giving access to the position. From that time on, other attacks on blockhouses took place, and by the end of the struggle, it was evident that this type of fortification was in turn also becoming obsolete. Without doubt we could have improved and extended the obstacles. We could have increased the number of fortified positions and provided them with more turrets and with overhead cover for high-angle-fire weapon emplacements. We also could have planned better shelters for counterattack elements, provided more protection for the command post, improved emergency exits, etc.

\(^1\)The last fortifications were built in the summer of 1953 at the southeast point of the delta.

\(^2\)Namely, the organization of the fortification to link the living areas with one or two firing positions.
Unfortunately these things could not be done. It was impossible to modernize all existing military posts, and we were forced to use many inadequate and obsolete fortifications. A census taken January 1, 1953, in the Tonkin delta shows, for example, that out of a total of 917 military posts or minor fortifications only 80 were modern, 25 were relatively recent, and 810 were out of date in varying degrees. The author of a report commented with some humor upon this situation: "... it must not be forgotten that the Dubout-type posts that we are complaining about in 1953 are built strictly in accordance with the regulations of 1947: straw huts, low earthen walls, and obstacles of interwoven bamboo."

The combat capabilities of the Viet Minh varied with different areas, because the enemy only gradually equipped its units with modern armaments. Thus, posts in the vicinity of Viet Minh main force units were far more vulnerable than those in Occhinchina, where the adversary had no artillery and little ammunition. As a result, fortifications that continued to be useful in South Vietnam as late as 1953 had been obsolete in the Hung Yen (Tonkin) starting in 1951.

The fortified positions required constant repair and improvement. But the efforts of the commanders in this regard were always limited by lack of funds and above all by the large requirements for manpower, material, and heavy equipment. We also often came up against an old problem faced by engineers when they are asked to repair a fortification; they seldom can avoid making unsatisfactory compromises when they are not permitted to level the old works and start anew.

There is thus a lesson to be learned from the herculean tasks performed by the engineers in Indochina; fortified works should from the very first be built to withstand an armament superior to that which the rebels possess at the moment. One must proceed immediately beyond thinking in terms of automatic weapons and grenades, and build facilities capable of withstanding the fires of heavy mortars as well as rocket launchers. We must use concrete from the start, and keep the profiles of the positions as low as possible.¹

¹When use of cement is impossible it is better to turn to field fortification, for this will offer better resistance than a fortification made of walls and towers.
Such elementary precautions will prevent the enemy from winning easy victories a few months later, when he acquires more powerful weapons. In addition, the presence of strong military posts will impress the natives and will contribute to the pacification.

DEFENSE OF MILITARY POSTS

Our adversary systematically attacked military posts at night and, as expected, by surprise. Under these circumstances the resistance of a fortification was naturally dependent on the quality of the fortification; but it depended also on the prior arrangements made by the commanders and by the garrison itself. The territorial commanders had to allocate to the post:

- Sufficient troops, not only to permit them to move outside of the position but also to provide for a suitable system of reliefs.

- Sufficient ammunition to sustain a full night of combat. Experience led us to provide each position with three to four units of fire, and sometimes more. The actual allowance depended primarily on our ability to resupply by road. The same rule applied to rations, allowances generally depending upon the degree of isolation of the position.

- Artillery support.

The armament allowance of a military post depends upon its capacity for resistance. It is unjustified to assign numerous weapons to a fortification that can be readily overcome since this simply makes for added plunder for the enemy.

The allocation of tanks to fixed positions proved unsatisfactory. These had a temporary psychological impact, but since they were

1 The subversion of certain regions was such that certain posts were only rarely supplied by land routes or waterways. Only airdrops assured their connection with the outside world.

2 This consideration is valid only for so-called "sector" armament. The unit which occupies a post must in all cases have its organic weapons.
restricted to a small area, they could be of little help. This role of "armored sentry boxes" was definitely not part of our regulations.  

Except in rare cases when there was some forewarning of an enemy attack and countermeasures had been possible, the security of a garrison depended upon a triple warning system:

- At a given distance from the strong point, ambushes were prepared and manned along the likely avenues of approach.
- Closer in, outposts and patrols maintained surveillance over areas between mine fields and trip flares.
- Finally, in the immediate area of the strong point, sentries and dogs were used on a regular watch basis.

If this warning system failed either because of inadequacy or treason, there was no question of conducting a defense. The defenders would be quickly overrun in a brief and brutal assault before they could take up arms or report to higher headquarters. Thus, higher headquarters would know nothing until the flashes and sounds of explosions indicated the position had been destroyed. The only thing left to do then was to appease one's conscience by opening fire on the position and possible routes of enemy withdrawal, in the hope of inflicting some damage before he left. Of course, the enemy could only succeed in such an attack after detailed preparations based upon a careful study of the position both from within and without. To deny him this facility it was necessary to make use of alternate positions and rely heavily on the camouflage. In this connection, certain garrisons did not hesitate to use unusual dispositions. There is the case of Vietnamese Second Lieutenant X who, upon taking command of a position which included five strong blockhouses, achieved singular success by placing all of his forces in carefully camouflaged trenches outside of the blockhouses which drew all the enemy's fire.

1 In particular, at the time of the attack of the post of Le Khu on September 14, 1953, three Sherman tanks were put out of action before their crews could man their weapons.
When the alert system did work, the troops could reach their firing positions while radio contact was being made with the higher headquarters, usually at the very moment when the enemy started to open gaps in the wire.

The defense then depended upon four conditions:

1. The application of heavy fire at the assault waves or on the base of fire supporting the attack. "If the commander was able to quickly identify the enemy scheme of maneuvers, use his final protective fires and adjust his supporting fires, he had a chance. Otherwise he did not, for the Viet Minh had an uncanny ability to avoid normal final protective fires."\(^1\)

2. The organization of a fall-back position to provide some depth and to permit the assembly of survivors from the one or more blockhouses that had been overrun.

3. The availability of a reserve to launch a counterattack. "From the moment the enemy breaches the outlying defenses, the only hope for the safety of a military post lies in the execution of a counterattack whose effectiveness will depend upon its timing and its power.... Counterattack plans must be prepared in advance in great detail and must be repeatedly rehearsed in all of their variations under all conditions: at night, in adverse weather, under smoke, etc."\(^2\)

In this connection, centers of resistance built of concrete offered a precious advantage for they permitted the artillery to use time fire over a partially overrun position while a counterattack was being readied in a central redoubt.\(^3\)

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1. Captain X, district commander, spoke of an attack on the tower of Y in the Tonkin, November 28, 1953, in the course of which the Viet Minh set up their base of tire within the wire encircling the tower and on the friendly side of final protective fires.


3. This fire is in fact nothing more than the technique of fire used on the Maginot Line.
The continued operation of communications by having some reserve personnel and equipment available, by having spare net antennas to replace whip antennas, and by having signal flares available at each position to use in accordance with a prearranged code.

Battlefield illumination by star shells has always been highly useful. In addition C-47 aircraft equipped for dropping flares were in use before the end of hostilities. The use of such aircraft depended upon maintaining radio contact with the post under attack.¹ The use of close air support at night was studied and target folders were prepared for certain strong points in Tonkin identifying possible enemy assembly areas, likely positions for supporting weapons, etc., in the vicinity. The experience gained by striking these preplanned targets was insufficient to permit any judgment to be made of the effectiveness of the technique.

The requirements for a successful defense were thus numerous and difficult to assemble. In the last months of the campaign a zone commander was able to write: "Experience shows that an isolated post attacked at night will usually fall if the enemy force is three times larger, possesses weapons suited to such assaults (bazookas, recoilless cannons, mortars, satchel charges, etc.), and is not concerned over taking casualties. Under such conditions it would be highly unusual for the defenses to succeed, particularly if the enemy was able to achieve a surprise attack."²

RELIEF OF A POST UNDER ATTACK

The use of reserve units to assist a post attacked at night was the exception, not the rule. Even if the roads had been kept open, the local area commander always hesitated to send his meager reserves

¹The use of such aircraft (nicknamed LUCIOLE) required some delay, usually about 10 minutes after receipt of the request at the airfield, plus flight time to target.
²Colonel X, commander of a zone in North Vietnam.
out into the night. On occasion it was possible to render immediate assistance to a beleaguered post by moving on the waterways. In the case where such waterways existed, river craft could usually be depended upon to force a passage even in the presence of an enemy blocking force, and their fire power in support of the defenders was usually decisive. Unfortunately, such craft were slow and few in number. Thus it was rare for them to be in position to be able to reach a post in time. Moreover, they were noisy and could seldom attain any degree of surprise.\(^1\)

The only help that could normally be provided by the area command before dawn was restricted to artillery fire (and in rare cases to mortar fires). Naval gunfire support was occasionally provided for positions along the coast. Some positions were supported in this manner for several days at a time (Dinh Dong at Phu Quoc, Quang Khe and Pai Foo on the Annam coast) by one or more coastal patrol ships.

The Viet Minh attempted, whenever possible, to render supporting fires ineffective, and in the two last war years all attacks on a post normally included: (1) diversions against adjacent positions (by use of automatic weapon fires to represent the preparation of an assault, harassment by mortar fires, etc.), and (2) neutralization of supporting artillery in the area by heavy mortar fires.

The so-called relief of a post could thus usually only be undertaken during the morning and then would involve nothing more than the reestablishment of contact with the garrison. If in the meantime the position had been taken, the enemy had usually already plundered it and disappeared; if the garrison still resisted, the chances were that by daybreak the enemy had withdrawn.\(^2\)

In such relief operations, we were sure to run into strong ambushes. In fact Viet Minh tactics continually improved, and toward the end of

\(^1\) One should mention, in favor of noisy boat engines, a case in 1946 where the starting up of a section of landing craft vehicle personnel (LCVP) 5 km from a post under attack was enough to cause the enemy to break off the action.

\(^2\) Sometimes they continued to besiege the post from a distance while they prepared a new assault for the following night.
the hostilities the Commander in Chief wrote: "One must never forget that the enemy does not always make the attack of a military post his main objective. The objective is often the destruction of relieving units by means of a well placed ambush. The attack of a post therefore is a secondary objective, the real purpose of which is to attack our forces."  

During the early years of the war it was possible to come to the help of garrisons that still held out on the morning following an attack by using paratroop units. A platoon or a company alerted during the night could take off as soon as aerial observation had confirmed that the post still resisted. The drop was then made in the immediate area of the fortification or, in certain favorable cases, directly on the position itself. In the course of the war there was a total of 25 posts supported in this fashion. In addition, 30 other garrisons that had been besieged received paratroop reinforcement before they were assaulted or in the daytime interval between two succeeding night attacks. Eventually the appearance of Viet Minh antiaircraft weapons made such operations increasingly infrequent. Relief operations thus became major efforts involving close air support as well as support by all available artillery.

DEFENSE OF CRITICAL AREAS

The requirements to protect logistics installations, major headquarters, and the rear bases of mobile units, led to the organization of fortified areas.

Towns thus became vast entrenched camps, whose borders were defended by a system of outposts or simple blockhouses interconnected by wire obstacles. In most cases it was impossible to include the local airfield or airfields within the protected perimeter. Airfields

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1 Note of November 13, 1953.

2 On December 6, 1953, the military post of X (Tonkin) which was attacked fell during the night with exception of a handful of defendants. The relief column (one reinforced battalion) was ambushed the next morning by two Viet Minh battalions. The casualties were heavy on both sides despite the intervention of fighter aircraft.
were thus almost always organized for security as independent centers of resistance. Throughout the hostilities all of these protected areas were subject to acts of sabotage and raids by Viet Minh commandos.\(^1\) The airfields in particular were victims of surprise attacks that always resulted in the loss of some aircraft. The countermeasures we evolved through experience are described below.

A general officer directly responsible to the Commander in Chief was designated as the Inspector General of Critical Areas. This officer, as the representative of the High Command, was able to take the required remedial actions and stimulate continuing interest in improving the defenses.

The coordination of the defenses of all critical areas which formed a single complex was made the responsibility of a single authority, even if the various installations belonged to different services. The designated single coordinating authority was assisted by a security officer charged with constantly testing the security procedures and bringing about their improvement as required.

Insofar as the actual defense was concerned, it was necessary to have available a force corresponding in composition to the mission involved. The size of this force was generally related to the number of blockhouses to be manned and to the need for a strong reserve as a counterattack element.

The evacuation of civilians from within the defensive perimeter was desirable, but infeasible, when towns were involved. Nevertheless, it was found necessary to carry out forced evacuations of villages which, although outside of the defensive complex itself, were in the immediate proximity of its vital points.\(^2\) This was followed by the

\(^1\)Mass attacks on the towns seem to have been avoided by the Viet Minh, since they needed them as a source for a thousand different manufactured objects and medicines.

\(^2\)The evacuation of two villages in the Do Son peninsula was required after a surprise attack carried out against the airfield and fuel depot by a commando who had found among the inhabitants all the means for carrying out his mission.
leveling of all terrain features which could provide cover to an attacker. Lastly, it was necessary to organize the interior of the defensive complex for sustained defense; this would include using wiring to canalize enemy movement, organizing strong points capable of independent resistance or, preferably, an interrelated system of such strong points.

Figure 2 serves as an example of how a major airfield was organized for ground defense.

THE CLEARING OF ROADS

Each night roads were left to the enemy. We had tried to retain some control at night by using armored patrols equipped with infrared viewing devices. However, this had proven entirely unsatisfactory. This was not surprising, for the instruments available were not suited to the purpose; they were designed either for night driving or for sighting weapons (observation devices as such were in fact not usable except while stopped). We were on occasion able to get motor convoys through with all lights blazing without their being attacked and without running over mines. This sort of surprise action did not give the Viet Minh time to set up any ambushes. However, if the technique had been tried several nights in a row, it surely would have led to murderous attacks.

Consideration was given to the possibility "of keeping the roads open at night by armored or motorized patrols provided with powerful lights. These were intended to illuminate not only the center of the road, but the two sides as well, the light beams interlocking in the same fashion as does the fire of automatic weapons."¹

The fact of the matter was that, in the case of vital roads, it was normal practice to reopen them each morning. Secondary roads were opened only at irregular intervals and in insecure areas; the roads were seldom opened. In these circumstances the resupply of

¹Study of the general staff of the F.T.N.V.
posts was usually by airdrop or by waterways; when waterways were to be used it became a separate operation, for it was necessary to form convoys with an escort and a minesweeping element.

Road opening operations were basically tactical in that the problem was to catch the Viet Minh as they lay ready to spring an ambush. They were also technical in that mines had to be cleared, as did a variety of booby traps.\(^1\) The means required thus depended upon the enemy's capabilities as affected by local conditions and the importance which we gave to the route in question. The opening of a road in a relatively secure area could be carried out by as little as a squad. On the other hand, at the time of heavy engagements in the Tonkin delta, the same task required at least one, if not two, infantry battalions reinforced by armor, engineers and strong artillery support, plus one observation aircraft.\(^2\)

Such operations were governed by classic infantry tactics in that they always involved seeking the enemy out along the sides of a roadway. The difficulty was that the enemy not only knew the area, but was also familiar with our timing and the means we normally allotted to the task. It is rare for one to enjoy such information oneself, but it was difficult to avoid giving it to the enemy. Commanders always insisted on the need for varying the details concerning the movement and operation of the opening force, but the units involved almost always declared that they were unable to do this. Very rare were those who could write: "Contrary to many comrades and to widely held opinions, I found it relatively simple to vary the road-opening operations and to nearly systematically avoid surprise attacks in the course of these operations."

"On the subsector level, the first thing to do is not to impose the same schedule every day on the subordinate units charged with

\(^1\) Comparable operations were undertaken along the waterways, on the waterway itself behind minesweeping elements, as well as along both banks. This was only done to clear the way for large supply transports.

\(^2\) The case of the daily opening of the Hanoi-Haiphong road in May-June 1954, in the vicinity of Ban Yen Nhan.
the road opening task; this diminishes the chances of a surprise attack. Garrison commanders should open only one section of a road at a time (usually, they have at least two, in diverging directions). This permits the retention of part of the force as a reserve. The direction from which a section of road is opened should be changed from time to time (for example, it should be west to east two days in a row, then east to west, etc...).

"Operate on one or the other side of the roadway, or sometimes on both sides at once. At irregular intervals open a road with maximum force. For this, use all available troops operating from one end of the assigned section of road to the other. Sometimes open roads at night. Alternatively, move at night to assembly areas the detachments charged with the opening of a road the next morning. Set up ambushes near the road during the night. The next morning, conduct the road opening operation with few troops, relying for support upon the ambush positions.

"In truth, the number of ruses that one can use to thwart enemy ambushes is infinite, and road openings take on the monotonous character that is too frequently attributed to them only when the troops are poor and, above all, badly led."¹

The above judgment is certainly exaggerated. The best of units ended up by growing tired of constantly repeating the same task. The dulling of their reflexes which resulted was definitely their greatest danger.

Lieutenant X, who commanded a district in the Tonkin, thus describes this fatal laxity: "Every day I send out the road opening detail. Despite orders, habits are established, and, if one is not watchful, the automatic rifles are set up in the same places, and the riflemen march in line behind the man with the mine detector."

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¹Commander X.
The control of lines of communications thus becomes a heavy burden. As an example, a study was made to determine what it cost to use four main sections of road in the Tonkin during a period when the enemy was particularly active, i.e., during the preliminaries and the course of the battle of Dien Bien Phu (January-July 1954).\(^1\) Note that the statistics obtained reflect a period of peak activity.

On the four routes involved, defensive posts were spaced an average of 5 to 8 km apart. If one adds only the garrison personnel actually concerned with the defense to one-half the number of auxiliaries available (this to take into account their relative effectiveness), one arrives at a density of 20 to 30 combatants per kilometer. The daily opening of the roads required about 10 men per kilometer, whereas normally only four or five were needed. The daily casualties were no less severe; counting attacks on military posts as well as ambushes of road opening detachments, losses each day per 100 km of road were an average of three to ten men killed, wounded or disappeared. Mines accounted for between one-fourth and one-half of these casualties. At these costs we succeeded in retaining use of roads for six to ten hours. This simply means that the need must be great before one can agree to pay the price. Under other circumstances, the control of lines of communications can only be sought when an area can be quickly and easily pacified.

This idea deserves to be emphasized: "If one considers the time factor in addition to troop strength, it is evident that the control of an axis of communication without concurrent pacification of the area is extremely costly. For example, assume the control of a given section of a road requires one infantry battalion and one artillery battery; but the road is located in an area which can be pacified by

\(^1\) Study made by the general commanding the F.T.N.V. and bearing on the 65 km of the route Hanoi-Haiphong (R.N. 5), the 36 km of the route connecting Ban Yen Nhan with Hung Yen (R.L. 39), the 28 km of the route Haiduong-Sept Pagodes (R.P. 17 North), and the 26 km of the route Sept Pagodes-Dong Trieu (R.P. 16).
three infantry battalions in six months, after which the security of
the road can be assured by local forces alone. Considering the re-
quirement extending over a two year period, it is more economical to
pacify the area (18 battalions per month) than to control only the
road (24 battalions per month). 1

An ex-sector commander 2 was even more precise: "There must be
some greater return from the effort made to extend control over an
area than merely being able to resupply posts whose main purpose is
to keep the line of communications open. A commander must be prepared
to relinquish control of the routes that are not absolutely indispensible
to him, even if this means that certain selected routes will
have to be forcibly reopened for a specific operation and kept open
throughout its duration."

Several examples showed that this concept is perfectly sound:
(1) reopening of a section of R.C. 2 for Operation LORRAINE, and
(2) reopening of R.P. 59 for Operation MOUETTE. It needs to be
noted that the reopening of a roadway under such conditions will
require extensive repairs which in turn will place heavy demands
upon engineer troop resources.

1 Captain X, South Vietnam.
2 Colonel Y, South Vietnam.

Translator's Note

3 Dubout is a French cartoonist whose work in the context used
here may be compared to that of Rube Goldberg, whose mechanical
monstrosities have long been featured in American newspapers and
magazines.
Fig. 3—Attack on a post (schematic)
VI. AREA CONTROL

The control of lines of communications and the defense of military posts are passive aspects of ground warfare, for they contribute to neither the neutralization nor the destruction of the enemy. They are a necessary outlay of capital, but it does not bear interest. Only those operations whose aim is the excision of the enemy dispersed within an area can be placed on the asset side of the balance sheet. Such surgery, based on a diagnosis of the more infected areas and of the villages that are still relatively healthy, has to result in the removal of the gangrenous tissue to pave the way for convalescence; this will be actual pacification.

Control of communication axes and area control thus have differing objectives. The former is an operational matter; the latter is inspired by political considerations. In practice, these two aspects of ground warfare, one "passive" and the other "constructive," overlap. For example, it is certain that the control of axes of communication helps to restore normal civilian activity. This, in turn, favors economic recovery and greatly contributes to the extension of pacification.

THE CONDITIONS OF AREA CONTROL

In South Vietnam, favorable conditions made it possible to pass quickly from control of axes of communication to control of areas, at least in certain regions. With the help of political activity, pacification could follow. However, in 1954, the situation was regressing because of the "too abrupt transition from watch towers to military posts. These last, being theoretically stronger, were less numerous; but unfortunately, they were undermanned. In general,

1With the exception of the losses that the enemy had to expect in order to capture a post.

2This control, assured in large part by the static network of towers, could have been improved by extending it to waterways: "A fragmentation of the waterways into separated sections could have been achieved by the use of large numbers of wizards." (Captain commanding the naval flotilla of South Indochina. See section allotted to naval forces.)
one military post replaced six towers. But since this was to provide a savings in personnel, only the garrisons of three towers were assigned to one post. Thus the new military posts, which were triangular and had three observation points, required all assigned personnel to man the lookouts. This left us no one available for patrolling.¹

In North Vietnam, on the contrary, military, political, and geographic factors combined to deny us the opportunity of developing an effective area control. It was in the North where we harvested a large crop of negative lessons, and it is there that we must look for the causes of our failures.

AREA CONTROL IN NORTH VIETNAM

In Tonkin our forces were first of all handicapped by the presence of Viet Minh divisions encircling the delta. It was necessary to remain continually alert not only to drive back an enemy thrust, as at Vinh Yen in 1951, but also to intercept any units that were infiltrating into areas already cleared. The latter mission was never satisfactorily accomplished.

From the political point of view, we were unable to use propaganda, as an extension of our combat operations, to overcome centers of subversion. The inefficiencies of the Vietnamese administration did the rest, and little by little area control, always ephemeral and localized, had to be abandoned, except in a few parts of the delta.

The physical aspects of the area were another source of constant difficulty: In an area of 12,000 sq km, 8 million inhabitants were clustered in 3,000 or 4,000 villages. The roads and trails which bordered the rice fields were quickly cut with the result that villages became islands which no wheeled or tracked vehicle could approach. Five hundred meters of flooded rice paddies protected the rebels from all surprise attacks, while a complex of ponds and thickets

¹Captain commanding river forces, South Vietnam.
within each locality provided a thousand possible hiding places. Under these conditions, our speed of advance was that of an infantryman floundering in quicksand, and we were reduced to using an unusual formula: one village--one battalion--one-half day. Thus, everything combined to thwart our efforts at area control. We were forced to use our resources only to control lines of communication, and this unfortunately required that we multiply our military posts. The problem was that we had inadequate forces to man the strong points and at the same time patrol outward to create a perimeter of security around each fortification. The normal garrison was 60 to 80 men. One-third of these had to be on guard during the day, and three-fourths were on duty at night. This allowed up to one platoon to be used for daytime patrols, but there was seldom anyone to send out at night.

The enemy, on the contrary, could stand up to us with forces very inferior to ours, for the support of the population permitted him to concentrate and to attack, at the time and place of his choice, a force which might have strayed too far from its base.

"In X Sector," says Major Y, "two well known but elusive Viet Minh provincial battalions stationed in a central position could move at night against any one of a hundred military posts in the sector held by a total of 7,000 men. Each of these 7,000 men put in four hours of guard duty or took part in other tasks required to assure the security of these installations during the night.

As a result of the spread of the insurgency and the increasing hazards of movement outside of defended areas the various strong points and military posts became visually isolated. "...Sometimes a post perceives nothing; it becomes mesmerized by the monotony and tedium of its work. It becomes unaware that the people who come up to its very walls are anything but shadows, that the local head man leaves to spend the night outside, and that the wives of the partisans go to look after their old sick mothers in the neighboring village. Then one night the post falls like a gangrenous bone, or else--and this is the most frequent case--it becomes like a foreign body, a
cyst, which the living flesh has surrounded with nerve fibers and blood vessels. The Viet Minh surgeon does not want to operate, because the post does no harm; it no longer represents anything.  

At the end of 1953 our occupation had become so compartmented that one could say: "We are the ones who are infiltrated in the delta, not the Viet Minh." A census taken on January 1, 1954, showed that 82,470 men of all races were immobilized behind the wire of 920 posts of varying importance and all more or less the worse for wear. This also involved armament equivalent to that of several divisions: 9,714 automatic rifles and machine guns, 1,225 mortars of all calibers, 426 antitank guns, and 125 artillery pieces. In this same time period, the Viet Minh maintained in the interior of the delta only 37,000 combatants at the most. Thus, if we exclude the Viet Minh divisions, against which we pitched mobile groups and general reserve units which made up our battle force, we were using twice as many men, and between three and four times as many weapons, as the enemy to carry on ground combat operations. Such a balance sheet was the very

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1 Reserve Captain X, "Dead War.
2 General X.
3 This includes in the delta the region of Quang Yen and Hongay, the occupation of which was indispensable for the utilization of the port of Haiphong.
4 These 82,470 men included 1,080 officers and 7,515 non-commissioned officers.
5 To these troops there had to be added other forces committed to the defense of the air bases and the installations scattered in the interior of the cities of Hanoi, Nam Dinh, and Haiphong, and lastly, the troops guarding the rear bases of all our mobile units (mobile groups and diverse formations).
6 A significant number of these guns were in old tank turrets, which were used in certain military posts.
7 These 37,000 combatants broke down into: 13 to 14 regional battalions corresponding to the provinces of the delta, to which were added three independent regiments (42nd, 46th, and 50th R.I.) and one battalion of a recently created regiment. In addition the 246th R.I. sent a battalion by rotation into the delta 120 to 130 district companies, including therein the units supported by districts adjacent to the delta.
negation of the purpose of fortifications since it brought us no economy of troops whatsoever: quite the contrary in fact! It was, in addition, further proof of the miscalculation of the High Command in accepting a large number of posts rather than insisting upon a smaller number of higher quality.

In conclusion, the Commander in Chief could write: "The more than century-old [fortification] system inherited from the colonial wars was valid against rebels who were relatively few and badly armed. Its modernization was essentially symbolic, for the walls and stockades were replaced only by barbed wire entanglements and weapons emplacements of either field or masonry type. Against an enemy whose forces were numerous, seasoned, well trained, well armed, well equipped with powerful means of destruction, and who had developed highly effective assault tactics and techniques, it failed completely. All the posts attacked with determination fell; the resistance—often very honorable—put up by certain of them was sometimes successful only because of outside help (artillery or air support), or because of unusual circumstances (difficult terrain, solidity of construction, exceptional energy on the commander's part, mistakes made by the attackers)."

In the course of time this system began to be replaced by a small number of defended camps. These served "as bases of operations and support for mobile forces, most often made up of native contingents, which moved about the countryside and among the people to direct and support the activities of the local self-defense units and to continue the ceaseless search for rebel detachments." This new concept envisaged the abandonment of a large number of posts, in particular those that were strung out along the roads. In this connection, "the reestablishment of routes required little time and effort in certain cases,... In other cases the material required to reestablish roads had to be stored in defended areas."

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2 Colonel N, commander of a zone in the Tonkin.
Circumstances delayed the implementation of this concept as defined by the High Command. Figure 4 reveals, however, that the organization of the centers of resistance of Cho Canh and of Ninh Binh had been based in general upon the same ideas.

The operations of a mobile force based upon an entrenched camp are described by a captain as follows: "The unit constantly moves about on its own initiative; it stays in one place only as long as necessary; it disperses, reunites, breaks up...in short it behaves somewhat like an amoeba in constant motion.... It then follows that...one by one, all villages become well known...the area and its pathways are memorized...frequent contacts are made with the local people...a variety of information is verified at the source...."

The mobile units which operate from a given base must be so organized that they can reach the farthest point in their area of responsibility in one-half a day or one night and then return. This will serve to create a feeling of insecurity in the enemy. In an area where the terrain is easy, and where there is good observation and a feeble population density, one rifle company operating out of a secure base can control an area within a radius of 10 to 15 km. On the other hand, in a badly subverted area with difficult terrain and a large population, such as in certain sectors of Tonkin, the garrison of an entrenched camp should never go below three to four companies (auxiliaries or regulars). With such a force one cannot control an area much beyond 4 to 5 km from the base since all sorties have to be made in strength and the need to observe maximum security will significantly reduce the speed of movement.¹

To be able to cover the desired areas under these conditions, it was necessary to organize these base camps around a force approximating a mobile group in size, and to space these camps about 15 km apart. This meant that it would require, in one case, about 25 men

¹In addition, rifle companies seldom strayed beyond the range of the 120-mm mortars set up within the camp.
Center of resistance of Ninh-Binh

Flat terrain
63 machine guns
11 automatic rifles
226 men

Location of Ninh-Binh village completely leveled

scale
1 km

Center of resistance of Cho-Ganh

Broken terrain
69 machine guns
17 automatic rifles
250 men

scale
1 km

Fig. 4—Centers of resistance
per 100 sq km, and in the other case, between 600 and 700 men per 100 sq km. It is interesting to note that at the beginning of 1954 the multiplication of posts was costing 660 men per 100 sq km of the Tonkin delta.\footnote{1}

\textbf{AREA CONTROL IN SOUTH VIETNAM}

In contrast to Tonkin, where we progressively lost the initiative, we were able to gradually extend our control over South Vietnam using time honored principles. Utilizing an "oil spot" technique, control was gradually established over a given area. This was done by extending little by little a network of communications whose security was maintained by military posts located close to one another. The peripheral communications of the area were covered by defensive positions designed to prevent any return into the controlled area of rebels who had been driven out by ground operations. It must be admitted that this task was singularly facilitated by the support of the sects (Binh Xuyen, Hoa Hao, Cao Dai) who played a role analogous to that of the tribes won over in our previous campaigns. The conduct of such operations was nonetheless delicate, and the example given below serves only as a guide.

The region of the Cisbassac\footnote{2} included some 800,000 inhabitants living in an area of 4,200 sq km. Toward the end of the summer of 1951, an average of four regional rebel companies normally operated there. The two principal routes were poorly watched by one of our battalions, and the loss of several towers and posts testified to the precariousness of our dispositions. In the last months of the year 1951 and the first ones of the year 1952, the mission of securing this area was entrusted to forces averaging five battalions. Ten search and destroy operations, each one lasting four to five days, led to the capture of 200 prisoners and about a hundred weapons. In addition, the rebels left 120 dead behind. In the spring of 1952,
the fragments of the Viet Minh units, after having been pursued without respite, took refuge in the Transbassac; pacification from then on was able to proceed rapidly. In February 1953, the enemy attempted to infiltrate again, but his company areas were completely destroyed. This wasted his last attempt to effect any penetration in force.

SWEEP AND SEARCH OPERATIONS

The normal activity within a sector consists of daily operations, whose nature and magnitude are infinitely variable. However, the most important of these are always sweeping and searching, for it is a question of ceaselessly sweeping an area to uncover the armed rebels, as well as the political cadres, the propagandists, the guides, etc., not to mention depots, workshops, caches, etc.

Sweep and search are "the going over of a region and its population with a fine-tooth comb."¹ In a cultivated area the infantry can proceed at a maximum speed of only 1.5 km per hour. The search of a large village (10 to 20 hectares and 2,000 inhabitants) can thus occupy several companies for several days. The discovery of hiding places is facilitated by the interrogation of the inhabitants and the screening of suspects. Moreover, the passage of time will bring the rebels out from their holes, or will loosen tongues.

The important point is that a thorough search is absolutely indispensable; troop leaders always complained that too little time was allowed for this. "I spent more than 18 months on mobile group operations in the delta," says Captain R. "My company had supposedly searched hundreds of villages. But we never had time to make a thorough search, and we left at the very moment the inhabitants would have talked. As a result our rear guard was often fired upon as we left a village by the guerrillas that they had been unable to find."

¹Colonel N, zone commander, F.T.N.V.
It should also be noted that excellent results were obtained by specializing certain native units in the techniques of searching villages. "The search is an important and difficult act. In our battalion we obtained excellent results by training a company of auxiliaries for this type of operation. Our Vietnamese knew all the Viet Minh ruses well and knew how to find and destroy the underground hideouts. The Legionnaires, strangers to the country, could never have done as well."1

The leader of a commando unit that specialized in search operations recommended the following method for recruiting native personnel: "Militiamen, peasants, defectors, demobilized prisoners of all services and volunteers who wanted to join the commando had to first furnish formal proof of their good will by supplying useful information, or, in the case of a demobilized individual, documentary proof of honorable military service."

The most practical techniques for the conduct of searches as evolved through experience are contained in the comments that follow.

"Fragmentation grenades have no effect whatsoever. Concussion grenades are very effective for small underground tunnels. However, they can only be used in emergencies, because the concussion effect on a Viet Minh will last about two hours, an excessive loss of time when it comes to gathering intelligence. Explosives are very effective. They permit the clearing of larger underground positions. However, if the position is occupied, the Viet Minh are killed and no intelligence can be gathered. Tear gas is very effective when it is used in an underground position not more than 20 m long. The capture of prisoners is then always achieved. The only drawback is that searches are rendered very difficult by the noxious gases that linger, and the documents cannot be read until one hour after they are taken, for they must be allowed to air out first. Smoke or phosphorous grenades are effective because they allow air vents and undiscovered exits to be quickly

1Lieutenant V, F.T.N.V.
found: their drawbacks are the same as for tear gas grenades, and their effect is also less persistent.

"Attention should be given to creating a draft to ensure that smoke generated at the entrance of an underground position will be drawn in. Persuasion is the best of weapons. It must be administered in measured doses combining threats and promises by interpreters or qualified Vietnamese soldiers."¹

WEAR UPON TROOPS

All ground warfare basically devolves upon the infantry. But contrary to a conventional war, where the two adversaries exhaust themselves simultaneously, in revolutionary war the side that does not enjoy the support of the population constantly overtaxes its infantrymen. Colonel X emphasized "the thoughtless demands made upon the infantry, which would make it unable to operate at night after having been active the whole day." The same held true for the garrisons of the military posts...whose defense placed even greater demand upon the entire force, because it was undertaken at night, every night, and whether the troops were threatened or not. On the other hand, the enemy did not suffer from a similar burden: "We did not give enough thought to the fact that in certain night attacks when a Viet Minh battalion showed so much drive and aggressiveness it was often because this would be the only engagement of the year for that unit."²

¹Report of commando leader.
²Battalion Chief Z.

Translator's Note

¹The Cisbassac refers to the Mekong delta area generally to the east of the Bassac River. The Transbassac is the western part of the delta.
VII. EMPLOYMENT OF MOBILE FORCES

All units that were not committed to the defense of posts and critical areas were termed "mobile forces." Some of these were assigned to sector commands, but the majority constituted the reserves of each territorial command. They were all employed in the same fashion, the only difference being that the larger formations could engage in more powerful and extended operations.

Galliéni had already differentiated between "immediate action" as undertaken by the mobile forces, and the more deliberate action entrusted to territorial formations. "Immediate action is the exception: It is characterized by the operation of military columns. It should only be undertaken against clearly identified objectives, where a show of force is necessary, force being inherent in columns."

Fifty years later, we stated the mission of mobile groups and general reserve troops in a more brutal fashion: "Smash the Viet." This is the basic task, for ground warfare, like all other military operations, is subject to the same imperatives: Find the enemy and destroy his units one by one. Unfortunately most of our difficulties came in trying to find his units.

Once enemy units infiltrated into the zones we claimed to control, they moved in groups from village to village covering what amounted to a hunting preserve where they found numerous clandestine depots and a politico-military infrastructure that permitted them to live and work in security.

Our intelligence provided us with a vague image of this enemy. We knew that Viet Minh troops had passed the night here or there, or we could deduce that a battalion was to be found within a certain imprecisely defined zone. But all this information was quickly outdated, and the enemy appeared as "a moving cloud of vague and changing contours, either expanding to dissipate itself like a mist, or else condensing into a storm whose violence is quickly over..."
leaving behind it only a blue sky...and some ruins." The enemy systematically avoided any encounter where destruction was risked. On the other hand, whenever our units found themselves isolated, the enemy attacked without warning, in superior numbers, and with much vigor.

In the areas which we contested with the Viet Minh, our basic problem was to find the enemy. This is why our operations usually involved the convergence of several mobile groups. What we sought by such actions was to encircle the enemy and ensure his destruction by artillery and close air support. The basic problem was the same in Viet Minh controlled areas, where the enemy usually disappeared as we began to move in. However, in this case we could not maneuver in separate formations and had to advance from only one or two directions with the hope that the enemy would attack us when he wrongfully believed he could surprise us.

**OPERATIONS IN CONTESTED AREAS**

In the areas we sought to control, the enemy had guerrilla cells (Du Kich) in the majority of the villages. The provincial and regional troops (Dia Phuong Quan) helped these cells to maintain their hold on the population. This permitted them not only to recruit combat forces and cadres, but also to obtain the rice and manufactured products they required. The Viet Minh logistic system was based on the principle: "The combatant must live off the country in which he operates."  

Toward the end of the war, we had to commit several battalions and often several mobile groups if we were to penetrate into such areas to seek out enemy units. In October 1953 we could thus write:  

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1 The deltas contain nine-tenths of the Vietnamese population of Indochina.

2 Chinese aid and supplies were never sufficient for the Viet Minh to be able to get along without the resources of the deltas.

3 Note of the Commander in Chief on the combat actions of the mobile groups of October 1953.
"Detachments up to battalion strength can still fight effectively against regional, provincial, and guerrilla formations. However, they must be more circumspect when they run into regular Viet Minh formations. In the latter case, without seeking shelter in inertia ...their primary task becomes that of carrying out 'commando' type actions: quick raids, ambushes, surprise attacks, etc.... Only by ceaselessly harassing the regular Viet Minh units...can the weak territorial units provide themselves with some measure of security ...and pave the way for their eventual destruction. This destruction is the task of the specially trained operational forces and in particular of the mobile groups, which constitute the basic element of the fighting forces."

The experience we gained in Tonkin showed that a force at least six times superior to that of an enemy unit was necessary to encircle and destroy it. In these conditions, operations were generally conducted as follows. Units were deployed into an area as quickly and secretly as possible. They then began to sweep the area from several directions to drive the enemy toward certain natural terrain features which some of our forces had previously occupied, or toward other friendly forces. Theoretically this was to result in a more or less complete encirclement. The enemy was then destroyed and the countryside subjected to a careful search.

Actual operations most often fell short of such plans. Sometimes what was thought to be fresh and accurate information caused us to proceed directly to the destruction phase without ensuring that the encirclement phase was complete. At other times, the encirclement was thorough, but after the net was drawn tight, we found nothing. It was then necessary to modify our plans and continue the operation utilizing new information. Thus we would seek to cut off enemy detachments along their routes of withdrawal, or we would undertake another encircling maneuver in an adjacent area. An analysis of the

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1 This proportion was unfortunately only rarely realized.
various phases of these operations will clearly bring out the reason for our repeated failures, as well as the difficulties of the undertaking.

THE PREPARATION

This obviously had to be done secretly, but nothing was more difficult. First of all, the services, and above all the staffs, most often worked in the towns where the population was influenced by Viet Minh propaganda and was "infiltrated" by the Viet Minh organization. Also, local labor was used; a mess steward, like an officer's orderly, could be knowingly or unknowingly the source of serious security leaks. Thus, the slightest change in our troop dispositions, in the location of our depots, or in our communications was instantly known by the Viet Minh agents hidden among the people.

Another difficulty lay in the fact that operation plans were often prepared at a high echelon (at the territorial level or even by the Commander in Chief) by a small number of officers. The unit commanders received their orders only at the last moment, and this undoubtedly added to their problems. A certain commander complained of having learned that his mobile group was to embark only after his unit had left its base area. Another mobile group commander deplored the fact that he had been sent to a region where he did not even know if he would find a place to deploy his batteries, etc. Nevertheless, the disadvantages of such measures to preserve maximum secrecy are certainly less than the advantages that can accrue when the enemy is kept in doubt as to the time and place an operation will begin.

DEPLOYMENT

The deployment phase was a critical element of a successful operation since it resulted in revealing to the enemy our means and our intentions in the light of day. Thus, it had to be carried out quickly.

1Dinh Van action.
2Mobile Group No.--, Operation GERFAUT.
even at the price of certain risks, for when it was done properly it denied to the enemy the possibility of slipping away.

The concentration of our forces in the region selected was therefore not preceded by any unusual ground or aerial reconnaissance activity, nor by the cutting or improvement of trails, nor by the establishment of nearby supply dumps. In short, nothing was done to arouse the suspicion of Viet Minh observers, who closely followed all of our activities.

Our motor transport and our ability to use the waterways permitted us, in the deltas, to move from distant points. However, the final approach of several kilometers most often had to be made on foot because of the scarcity of roads. These movements were carried out most often at night despite the difficulties of cross-country marches.

Every effort was made to have all the units in their final assembly positions at first light. But the slightest incident was enough to upset carefully planned timetables; a vehicle might break through a road fill or embankment in a flooded rice paddy area and the whole column would be immobilized for an hour or two ... or a squad of the enemy in a neighboring village might be in position to place automatic rifle fire on the advancing column, thus accounting for an even greater delay. It was also difficult, once the movements began, to ensure their perfect synchronization, for the chances of meeting the enemy would then depend on the speed with which our units converged upon the objectives which had been selected to seal off the area.

Our air power and artillery prevented all organized Viet Minh formations from passing between our columns during the day. We could thus count on the enemy's being gradually surrounded, while by the end of the day, we would be in position on the perimeter selected.

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1. Movements carried out on routes not cleared of mines beforehand.
2. Crossing in the dark of night an arroyo four meters wide spanned by a "monkey" bridge would take a battalion one hour.
3. No vehicle could pass; it was necessary to clear the road and fill the hole manually.
ENCIRCLEMENT OPERATIONS

A simple recapitulation of the conditions required for encirclement operations will suffice to convey the difficulties involved.

The nature of the terrain did not permit our infantry to march quickly, and the necessity to search all areas offering concealment further delayed its progress. Such delays were cumulative, with the result that the battalions usually were still far from their objectives when night fell. On the other hand, contact was often made in the course of the day.... The Du Kich would give the alarm by firing on us. Then we would run into minor resistance, and finally we would come head on against the enemy ambush in a village.

During the dry season the enemy avoided the areas that drew our fire, but in the rainy season, "in the middle of the mosaic of flooded rice paddies, interlaced by a network of canals and streams, the major terrain feature was the village and its surroundings (gardens, banana plantations, cemeteries...)."¹

The battle that followed could certainly bring about the destruction of an enemy unit, as we will see below. But, more often, no decision was reached before sunset, and contact would then be broken. In short, by the end of the first day of operations we almost always occupied an irregular and discontinuous line instead of a tight formation without gaps. Since we seldom had sufficient troop strength to fill these gaps in the line, it was not surprising to find that the enemy would slip out during the night.²

We did try to improve the effectiveness of our encirclement operations by taking advantage of waterways, which we would patrol with river units while the banks would be covered by outposts. But the results were generally disappointing. Such obstacles as rivers and canals had little effect upon the Viet Minh,² and in any event

¹ Note of the Commander in Chief on the combat operations of mobile groups of October 1953.
² See the section on the study of the Viet Minh infiltration process.
our savings in personnel from our already inadequate resources were minimal: between one-half and one-fourth depending on the conditions of visibility during the nights in question.

An encirclement operation should thus include: "A continuing 24-hour reconnaissance screen to uncover any attempts at breaking out and to reveal their direction, a series of blocking positions along all possible avenues or zones of withdrawal, mobile reserves capable of moving out on call, and a security screen to provide warning of any possible attempts by outside forces to intervene."¹

**DESTRUCTION OF THE ENEMY**

As we have just seen, an encounter with the enemy almost always took place in villages or in dense cover (coconut groves, densely overgrown fields, etc.). The clash would most often occur at night when the enemy troops attempted to break through our encircling screens, or else when they believed that they could easily defeat one of our units whose security appeared inadequate.² Such encounters took on the aspect of a defensive battle; the attacked units would resist the Viet Minh assault as best they could while the artillery fired a series of barrages. The affair was almost always over by sunrise, and it was only on rare occasions that the enemy could be pursued by fires or by combat patrols.

In general, engagements between our mobile formations and the Viet Minh infantry usually took place incident to attacks against villages or on the small isles of vegetation which extended above the flat delta or coastal zones.³ Accordingly, the problem was not only to reach these built up or covered areas in the face of fires which swept the edges of the rice paddies, but also to stand ready to overcome the counterattacks which would be launched from within the position. Most important of all, it was essential to end the battle

¹Note of the Commander in Chief on the combat operations of mobile groups of October 1953.
²The objectives favored by the Viet Minh units were artillery positions, the command posts of the mobile groups, and truck parks.
³See the section on the Viet Minh defenses.
by nightfall, or at least before the enemy could disappear into his hiding places. All of this called for the skillful maneuvering of infantry and the application of heavy supporting fires.

By the end of the war... "to attack a well defended village measuring between 200 to 300 m on the side\(^1\) required... one battalion of infantry... the fires of one artillery battalion.... The initial penetration had to be made at a carefully selected point where the effort could be concentrated and where it was possible to gain control of a position sufficiently large to serve as the point of departure for the subsequent methodical sweep of the whole area, usually by slipping along the borders of the paddies...."\(^2\)

The layout of many villages, generally in an elongated configuration, permitted the infantry to sweep along the easiest approaches. Changes of direction were thus frequent, and a quadrilateral formation was found to be quite effective.... This facilitated utilization of the network of trails or dikes to move against selected objectives from all sides.\(^2\)

The effectiveness of supporting fires depended upon precise target information and upon the capability of the artillery to cover the required target area. These points were often ignored, and too often artillery battalions were asked to fire at ill-defined targets or were told to destroy a 50-acre target area with 200 rounds of 105 mm.

It was often reported that the 105-mm shell was ineffective against the defenses of Viet Minh villages. It is certain that 155 mm would have been better for this task. However, the 105 mm would have been quite satisfactory against the majority of field fortifications\(^3\) encountered if ammunition expenditures could have come up to

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\(^1\) These dimensions correspond to a small village.

\(^2\) Note of the Commander in Chief on the combat operations of the mobile groups of October 1953.

\(^3\) Underground tunnels are not fighting positions but shelters; they are not included in this consideration.
the prescribed allowances. Unfortunately, the capacity of our communications routes and the levels of supply made such expenditures difficult.

Always we asked too much...or too little of the artillery; however, we cannot deny that it played a major role in destroying Viet Minh units trapped in villages. Nevertheless, aerial bombardment was without doubt far superior in this same task. The 500-lb and especially the 1000-lb bombs had a considerable material and moral effect since, within a radius of 100 m, the shock effect against the enemy was of considerable duration.

By the end of the first night of an operation the enemy very often succeeded in infiltrating past our security screen. From that time on, only two possibilities remained open to us: search the whole area thoroughly, arrest all suspects, and seek out and destroy supplies, caches, and all facilities. This search could last ten to fifteen days and would sometimes result in encounters when the enemy groups appeared in the track of one of our mobile groups. Secondly, we could repeat the maneuver by encircling an adjacent area, or seek to cut off the enemy's withdrawal by moving the battalions in response to the most current information.

Thus we ended up engaging in zig-zag movements which were exhausting for the infantry, and which sometimes resulted in the destruction of a Viet Minh unit that had been pursued for days or even weeks. Throughout this period we had to protect ourselves against night attacks launched without warning. Every night, and sometimes for

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1 For example, 1,000 shells of 105 mm are needed to destroy 100 m of trenches; 100 to 400 shells of 155 mm are needed to destroy a good field shelter, depending on the range; 80 105-mm shells in 4 min are needed to neutralize two and one-half acres, and 120 shells per hour are needed to maintain this neutralization (General Instruction on artillery fires of August 8, 1946).

2 Table 1 gives an outline of the ten principal operations carried out in the Tonkin from 1951 to 1954.

The casualties inflicted on the enemy are not indicated for it was very difficult to separate suspects, guerrillas, and regular soldiers.
<table>
<thead>
<tr>
<th>CONVENTIONAL NAME OF THE OPERATION</th>
<th>DURATION</th>
<th>NUMBER OF BATTALIONS ENGAGED</th>
<th>FRIENDLY CASUALTIES</th>
<th>OBSERVATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CITRON</td>
<td>September 24-29, 1951</td>
<td>14</td>
<td>67</td>
<td>The large number of casualties in these two operations is due to their duration and to the large number of mines and booby traps that the Viet Minh had placed in the areas involved.</td>
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<tr>
<td></td>
<td>5 days</td>
<td></td>
<td>19</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>143</td>
<td></td>
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<tr>
<td>MANDARINE</td>
<td>October 1-8, 1951</td>
<td>17</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8 days</td>
<td></td>
<td>9</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>170</td>
<td></td>
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<tr>
<td>TUKY</td>
<td>August 5-10, 1951</td>
<td>8</td>
<td>6</td>
<td></td>
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<tr>
<td></td>
<td>6 days</td>
<td></td>
<td>25</td>
<td></td>
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<tr>
<td>MERCURE</td>
<td>March 25 - April 6, 1952</td>
<td>18</td>
<td>69</td>
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<tr>
<td></td>
<td>13 days</td>
<td></td>
<td>28</td>
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<td>182</td>
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<tr>
<td>PORTO</td>
<td>April 14-15, 1952</td>
<td>11</td>
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<tr>
<td>POLO</td>
<td>April 18-19, 1952</td>
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<td>TURCO</td>
<td>April 19-27, 1952</td>
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<td></td>
<td></td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BRETAGNE</td>
<td>November 30, 1952 - January 3, 1953</td>
<td>18</td>
<td>61</td>
<td></td>
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<tr>
<td></td>
<td>35 days</td>
<td></td>
<td>121</td>
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<td></td>
<td></td>
<td></td>
<td>386</td>
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</tr>
<tr>
<td>ARTOIS</td>
<td>January 16-24, 1953</td>
<td>11</td>
<td>23</td>
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<td></td>
<td>9 days</td>
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<td>107</td>
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<td>NICE I</td>
<td>February 23-27, 1953</td>
<td>14</td>
<td>33</td>
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<tr>
<td>II</td>
<td>February 28-March 3, 1953</td>
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<td>6</td>
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<td></td>
<td>9 days</td>
<td></td>
<td>171</td>
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<tr>
<td>BROCHET</td>
<td>September 23 - October 11, 1953</td>
<td>18</td>
<td>139</td>
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<tr>
<td></td>
<td>19 days</td>
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<td>1</td>
<td></td>
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<td></td>
<td></td>
<td>597</td>
<td></td>
</tr>
<tr>
<td>GERFAUT</td>
<td>December 12, 1953 - January 10, 1954</td>
<td>20</td>
<td>138</td>
<td></td>
</tr>
<tr>
<td></td>
<td>30 days</td>
<td></td>
<td>21</td>
<td></td>
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<tr>
<td></td>
<td></td>
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<td>467</td>
<td></td>
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</tbody>
</table>
as long as two or three days at a time, the mobile groups had to organize themselves in defensive positions. Such operations also confirmed the need for large mutually supporting strong points which normally included the artillery battalion and the command post of the mobile group (see Table 1). The minimum unit required to protect these strong points was a company, but a battalion would have been better.

However, "the best security measure for the mobile group was to keep moving its forces throughout the largest possible area while continually planning a series of offensive reaction operations in several directions. This would contribute to its freedom of action and would permit covering a far greater area than was possible from a fixed position. The effectiveness of such operations was considerably enhanced when ambushes were laid each night along trails or zones which the enemy normally used."\(^1\)

**COMMAND ORGANIZATION**

Regardless of the magnitude of an operation there was always the problem of determining who was to be responsible for its conduct. The area command echelon was the only one with a comprehensive knowledge of the political situation within a given region. It would thus have been logical that the responsibility for the conduct of operations be assigned to the area commander, because tactical considerations often had to be subordinated to the local situation.

But, "there was always the question of rank. The commander of an area which a force corresponding to a light division (three mobile groups) entered for an operation was never more than a lieutenant colonel or even, on occasion, a junior officer. He thus would have little to say to the young and brilliant colonel who would arrive and establish his command post with its hundred odd vehicles in the vicinity of that of the area commander."\(^2\) It was thus necessary to

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\(^1\) Note of the Commander in Chief on the combat operations of the mobile groups of October 1953.

\(^2\) Captain C, North Vietnam quarter commander.
move up to the zone or territorial division echelon before a commander senior to both parties could be found. Unfortunately such a commander was "often too far removed from the scene of the contemplated action and was seldom knowledgeable."\(^1\)

A close liaison between the sector and subsector area commands and the mobile group headquarters could have simplified the problem. But it must be recognized that "this liaison was satisfactory only in the rather rare cases where the operational and territorial commanders knew and respected each other."\(^1\)

A subsector commander reported a situation, often repeated, as follows: "The mission involved the destruction of a provincial Viet Minh battalion with which I dealt each day. In general I was kept informed, sometimes even consulted in the course of the operation. However, my advice was never asked concerning the concept of the operation or the initial deployment of forces which constituted the phase upon which all else was to depend."\(^1\)

The resolution of this command problem was complicated by the difference in perspective between the leaders of mobile units and those of area commands. This led to regrettable misunderstandings... "the unfortunate but natural tendency to distrust everything that is not one's own...and led the unit commanders in mobile groups to look upon area commanders with suspicion and condescension."

A mobile group might spend months having the enemy elude it. Then, when an encounter did take place it most often ended in the disappearance of the enemy and only occasionally in his destruction. At the same time these mobile groups would come upon friendly posts whose garrisons reported they could barely show themselves in the neighboring village\(^2\) and who were harassed almost every night.

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\(^1\) Battalion commander.

\(^2\) Sometimes it even happened (as in the case of the posts Dao Vien, Truong Xa, and Dong Ly in June 1954) that the garrisons of the posts could gather airdropped supplies only at night.
The fact was that with the arrival of these fresh forces the region became calm. Thus the new arrivals always wondered if "the people in the post were not exaggerating a little."\(^1\)

In summary, one could conclude, as did Colonel X,\(^2\) that "search and destroy operations should without exception be undertaken by area commands. But although this principle was finally acknowledged in Indochina, it was not applied...." The preferential treatment frequently accorded to units trained for mobile operations created a rift between these and the territorial forces that had to be overcome...."

**OPERATION OF MOBILE FORCES ON THE PERIPHERY OF VIET MINH CONTROLLED ZONES**

The actions of our mobile forces on the periphery of the zones under Viet Minh control had as their aim, at certain times and as an expression of our "oil spot" policy, the extension of our occupation. In conjunction with these operations of a politico-military nature, there were many other operations whose purpose was either to destroy certain Viet Minh units and their installations to thwart major offensives, or to incite the enemy's main force to give battle.

Beginning in 1951, the enemy's main battle force consisted of five light divisions and one heavy division. Four-fifths of this force was normally stationed in the central part of North Vietnam and on the circumference of the Tonkinese delta (see Fig. 5). Our constant concern was to strike the enemy a vital blow by bringing this force to battle. On the other hand, the Viet Minh, in pursuit of his usual tactic, and confident of the difficulties we would encounter in areas which he controlled, never sought to oppose the advance of our forces beyond our outpost lines. These advances, like the operations we conducted within the delta, never involved the seizure of defended objectives. The Viet Minh command sought to create a vacuum before us, abandoning without resistance those installations

\(^1\)Lieutenant X, company commander.

\(^2\)Zone commander in the Tonkin.
LEGEND

- Infantry battalion (regular)
- O Regional battalion
- △ Artillery or antiaircraft or engineer battalion

Fig. 5—Viet Minh deployment
September 30, 1953
he had been unable to evacuate, doing what he could to deny us the use of roads, slowing however possible by obstacles and ambushes the forward progress of our formations. He took full advantage of the fact that he had hidden supplies and secret trails, whereas we had to rebuild our roads as we advanced. His infrastructure also permitted him, once our force was sufficiently extended, to assemble quickly several of his units and fall upon one of our formations which appeared to him to be somewhat isolated.

The salient that we thrust into his area soon took on the appearance of a defensive deployment. For, as our advance continued and time passed, the security of our line of communication required ever increasing numbers of troops to establish a chain of strong points. We then would have to establish a temporary base camp from which some of our units could fan out (carefully staying within the range of our artillery). The operation thus took on the appearance of a "tactical pause."¹

The various engagements that took place during this phase of the operation permitted us to weaken, if not destroy, a part of the enemy forces. However, if this situation were allowed to continue too long there was always the possibility it would turn to our disadvantage. For example, maintaining our position in the basin of Hoa Binh from November 1951 to February 1952 did result in the immobilization of three Viet Minh divisions (the 304th, 308th, and 312th), but it required an expenditure of forces equivalent to nine mobile groups and cost us heavy casualties. In addition, the longer our stay in the Viet Minh zone was prolonged, the more difficult our withdrawal became. The one at Hoa Binh succeeded, because we were able to create a secure corridor several hundred meters wide by clearing the trees and by establishing a series of defended posts along its course.

The concluding phase of Operation MOUETTE, conducted along the same principles, was equally successful. However, at the time of

¹For example, the entrenched camp of Hoa Binh for Operation LOTUS and of Lai Cac for Operation MOUETTE.
Operation LORRAINE we fell victim to a disastrous ambush, and there were other examples which revealed that a withdrawal had to be conducted according to the same rules as in a European war, and above all could not be...too long delayed.

In conclusion, our operations on the borders of Viet Minh controlled zones, despite their magnitude and purpose, did not teach us any particular lessons which would be relevant in similar wars. Nevertheless, they clearly emphasized the importance of giving careful consideration to the duration of any such operation. If the time allowed was inadequate, there was the chance of not making contact and hurting the enemy. If too much time was involved, one became exposed to a multiplicity of hazards because the withdrawal phase would become unusually difficult.

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1The 36th Viet Minh Regiment on November 17, 1952, destroyed the equivalent of one battalion along Colonial Route No. 2.
VIII. PACIFICATION

The steps required for pacification were well summarized in a report dated 1949. "For a province to be considered pacified, it is necessary for the authority of the legal government to manifest itself by the restoration of normal political institutions, for the clearing of the area to have been conducted by the people themselves, and, finally, for the centers of population to have organized self-defense units capable of protecting the critical points of their province."\(^1\)

The validity of this postulate resides in the definition of the terms "authority" and "legal government". Needless to say, these essential conditions were never fully attained in Vietnam. In addition, the process of pacification requires \(^1\) "...that all efforts converge toward the same goal...this being possible only if the same authority exercises both civil and military powers."\(^a\)

The complete restoration of order and a return to normalcy was an undertaking which, if not actually impossible, was at the very least doomed to end in unhappy and incomplete results.

It might be useful at this point to judge our policy of pacification by limiting ourselves solely to an examination of the first two steps taken to restore stability: the suppression of all manifestations of hostility on the part of the people, and the appearance of self-defense organizations in the majority of inhabited localities.

THE SUPPRESSION OF REBELLIOUS ATTITUDES

All ground combat operations should have a political purpose. This imperative was seldom appreciated, and Lieutenant Colonel X's remark was justified over and over again: "First we carried out an operation, and then we tried to derive political benefits from it." It was also often the case that..."to satisfy purely military considerations we evacuated certain regions where pacification was either going well or was at least progressing. As a consequence, the Viet Minh

\(^1\)General X, South Vietnam.
was able to establish himself more firmly, and the inhabitants could justly accuse us of having betrayed their trust."

"Nothing cost our forces more in Indochina than our abandonment of certain populated areas because our plans had changed or because our operations were beyond our means."¹ In this connection, the need to evacuate the uplands of the Northeast at the end of 1950 had grave consequences, for it alienated certain minorities. This same consequence was repeated when we were unable to maintain ourselves at Hoa Binh and had to give up our efforts to rally the M ions.

Nevertheless, Lyautey's practice to have his "native affairs officers" plan an offensive but not launch it until the propitious moment was not completely forgotten. General X wrote in a directive to his subordinate commanders, ² "Concerning pacification...there are no rules that are sacred or eternal...but we can ignore what we have seen revealed in all of our colonial campaigns only at the price of certain failure. Political action alone can resolve nothing; neither can military force alone produce decisive results." The foregoing sentiments were to find their justification in many regions and at many different times.

The reoccupation of the two dioceses of Phat Dien and Bui Chu in the Tonkin delta was made possible not only because the Catholic communities were opposed to the Viet Minh ideology, but also because of unofficial contacts..."the political preparation required to have these people welcome our troops and our administration took a long time--six months in the Bui Chu."³

In practice, the preparatory measures for pacification involved a careful determination of those regions where the Viet Minh's Communist mystique clashed with a militant Christianity (as in the

¹Commander T, F.T.N.V. (commander of a subsector).
²The leader of the pacification effort in South Vietnam.
³Colonel X, zone commander in Tonkin.
case of the Catholics in the Tonkin), with pseudo-religious feudalities (as in the case of the sects in South Vietnam), or finally, with racial differences (as in the case of minorities).

On other occasions we profited from the enemy's mistakes or from a sudden change in the attitude of the people in a region. In 1949, for example, General X thus justified his plan to reconquer an area in South Vietnam. "The political climate is favorable, as is evidenced each day by the pressing appeals of the people who are weary of Viet Minh control."

The experience of eight years of war does, however, suggest that the rules inherited from Lyautey and other great colonial leaders should be modified slightly to conform to the following postulate: it is not possible to undertake a policy of pacification in regions where the inhabitants have fallen under Communist influence as long as the Marxist organization remains there. The revolutionary apparatus must be destroyed, or at least shattered, before the enemy's techniques of indoctrination can be countered by our own propaganda. The politico-social hold of the Communist party denies to the individual all other forms of thought or life. The village cell, the informer, the administrator—all of these must be eliminated so that the individual can again exercise his own free will.

With this reservation, none of the historical techniques lost their validity. Indeed, the Viet Minh never concealed the fact that one of the principal objects of guerrilla war was to prevent us from carrying out our pacification procedures. A medical officer who had been taken prisoner reported, "The Viet Minh told me on several occasions that they had no enemy more dangerous than a doctor who treated the people."

Other officers who were able to improve the welfare and restore the well-being of the people in a region spoke of their activities with the same enthusiasm as had their forefathers. Here for example is the account of Major X: "From the beginning of 1953, I was determined to make my villages happy and to protect them from both
the Viet Minh and our own auxiliaries. Later, I had to defend them against the capacity of the landowners. By direct contact and by my actions, I made them understand that the Frenchman was neither a colonialist nor an enemy. An understanding and courageous Navy doctor was my greatest asset. He would constantly risk his life to answer all calls for help. Wounded Viet Minh were treated in his infirmary, but we were not taken in and the rebels knew it. In any event, I played the game. With the people and the local leaders, I invited their confidence. I told them, 'I ask nothing of you except that you cultivate your fields and that you be happy; the war is my business.' They themselves finally were the ones who gave me information. I procured seed and fertilizer for them, and I saw to their delivery. I sold their wood for them, and urged them to join in using rice paddies which lay fallow. In 1953, I helped them sell at a good price 400 tons of surplus rice, this being their first surplus crop since 1945. I repaired Provincial Road No. 19, had three bridges rebuilt, and turned them over to the villagers. I reestablished communications, and despite the risks, I authorized resumption of the motor sampan service between X and Y. Thus the economy was restored. With or without the support of the province officials, I opened schools. I also encouraged a Boy Scout movement and put vehicles at its disposal. My first reward came in 1953 when I presided over the distribution of prizes for three new villages. In two years my area had once again become rich; 25,000 inhabitants instead of 5,000; new and clean villages, one of which had been given my name. Since January 1, 1954, security was complete in my district."

At this point, the pacification should be evidenced by the people themselves reporting to the authorities whatever rebel elements remain among them.

CREATION OF A SELF-DEFENSE ORGANIZATION

The participation of the communities in their own security must be undertaken from the time they have given proof of their loyalty, but there are no precise rules for the constitution of self-defense
militias. As writes Colonel X: ¹ "Militias must be the armed expression of the will of the society...any uniform rule would be wrong, for societies differ. Village militia in the case where the village is the social group; parochial militia in the case of a parish;... anything and everything can be thought of and accomplished as long as the relation between a social group and its security force is retained."

The establishment of local security forces will lighten the task of the regular troops, but it will not eliminate the need to retain territorial forces capable of intervening quickly and in sufficient strength in the event rebel forces return. Major X puts the accent on this essential mission: ² "In my subsector in 1953, the period of pacification had been reached. We had been able to arm the villages from which the Viet Minh bases had been completely eliminated, and the population did its best to prevent the return of the rebels whom it feared. But, starting at the beginning of 1954 the situation began to deteriorate. The Viet Minh reinfilt rated more powerful units than the company that I possessed. The mobile groups, concerned with more critical areas, were unable to intervene in time. The villagers kept me informed for a time of the subversion that I could do nothing about. Then, the inhabitants of village after village, who had remained loyal despite everything, came to return the arms that no longer sufficed to defend them. I would have needed a powerful reserve to continue the pacification under such conditions."

Pacification long remains "fragile" and its eventual success requires a perserverance which we sometimes lacked. A characteristic example of this is the deterioration of the situation in Cochinchina during the last months of the war. At that time there occurred a renewal of Viet Minh activity that would have required the initiation of a new pacification campaign. "Only the zones held by the sect forces remained relatively healthy; all other zones supposedly under our control became gangrenous." ³

¹Zone commander in the Tonkin.
²Commander of a subsector in the Tonkin.
³Captain commanding the river forces of South Indochina.
To conclude this brief chapter, one can only cite once again a directive by General X lamenting the fact that the circumstances did not allow a constant and coordinated effort. "...The use of the Armed Forces must never be considered as an end in itself. They are only one of the means that permit one to arrive at an end. A single authority must exercise both civil and military powers....The natives must have an ever increasing role in the struggle for pacification."

**Translator's Note**

"Until 1950 there were two military authorities in Indochina. The High Commissioner had extensive civil powers and also exercised authority in matters normally under the cognizance of a theater commander. The Commander in Chief did not have the power of final decision but was responsible for the conduct of military operations. In essence the former looked to Paris, while the latter looked to Indochina."
IX. FORTIFICATIONS

Among the various types of fortifications used during the campaign, there are three that deserve detailed examination, for each of them was developed in response to a situation which could occur again:

- In regions that are not yet seriously subverted, or else at a time when rebel elements do not yet possess artillery or recoilless rifles, the small "lookout tower" type of facilities remain useful.
- In less secure sectors, where the enemy infantry still does not possess heavy supporting weapons, as was the case in South Vietnam, the posts that we had offered adequate protection, although they had been built quickly and economically.
- Finally, in the regions where strong fortifications are absolutely necessary, the reinforced concrete strong points of the type used in Tonkin are required.

Following the description of these three types of fortifications, it appears desirable to summarize the lessons of the campaign relating to the two problems which defenders of these positions always encountered: (1) protection of the fortifications by suitable obstacles, and (2) the most effective methods of carrying out surveillance during the night.

WATCHTOWERS

Initially, the towers were built of masonry 25 to 40 cm thick, surrounded by a low enclosing wall. The entrance was located at least 2 m above the ground level and was reached by a ladder. The observation post was at a height of 5 to 6 m, and its overhead was raised to permit grenades to be thrown.

Starting in 1949-1950, the protection was improved. This was done by building a brick wall 30 cm thick and 2 m high around the tower at a distance of about 1 m. Alternatively this outside wall could be formed by a double fence of palm wood or bamboo. This exterior wall was intended to keep the enemy from placing explosive
charges directly against the base of the tower either by hand or with the help of long poles (see Fig. 6).

Obviously this expedient provided inadequate protection against shaped charge projectiles. An effort was then made to separate the observation post itself, which was the most vulnerable point, from the main body of the fortification, which was required to house the garrison and to facilitate its defense. Starting in 1952 certain modifications were adopted which, with some later improvements, appeared to be generally satisfactory. The main part of the fortification was dug in as much as possible and was surrounded by a thick bank of earth whose face was angled to offer maximum resistance to fires. The living area for the garrison was in the interior of the fortification and generally consisted of a room of 16 sq m with a ceiling height of at least 2 m. An entry was provided either at ground level or through the overhead. Separate firing positions for individuals were provided about 1.5 m above ground level. The men were protected against high-angle fire weapons by a partial overhead and a recessed trench.

The main part of the fortification was protected from shaped charge projectiles by an earth embankment, which was at least 2 m thick.1 This was usually planted over with bunch grass. The lateral inner walls were built of bricks or concrete 30 to 40 cm thick. Alternatively they were made of planks or logs supported by vertical pilings dug into the ground. These were further strengthened by being bolted at their upper ends. At times the walls, approximately 0.9 m thick, were made of earth and logs. The overheads were about 0.75 m thick and were built of two layers of earth and wood covered by a thin layer of cement.

The observation post was completely separate from the remainder of the fortification insofar as its construction and resistance to fires was concerned. It was built either of metal casing, which provided improved deflection surfaces against projectiles, or of

1The earth came from the digging of the trenches.
Watch towers 1948

Watch towers 1949-1950

Two protective screens made of palm wood

Fig. 6—Watch towers, 1948-1950
heavy timbers. This observation post was as small as possible (1.5 m by 1.5 m), but was designed to permit the use of an automatic rifle. Its walls were resistant to small arms fire, and the separation of the overhead from the supporting wall permitted grenades to be thrown (see Figs. 7-8).

THE 1952-1953 TYPE OF FORTIFICATION IN SOUTH VIETNAM

Although these were small fortifications they nevertheless were capable of resisting a determined attack. They were built on flat terrain and could thus be laid out in geometric patterns, usually triangular, since they did not require many flanking positions to provide mutually supporting fires (see Fig. 9).

The Exterior Wall and the Blockhouses

The exterior wall protected the defenders from small arms fire and partially from shaped charges, and constituted a final obstacle to an enemy assault. It was made up of a low earth and log wall having a height of at least 1.8 m and faced on the outside by an earthen bank sloping down to a ditch. One meter was the minimum thickness of this rampart. The number of firing positions provided was commensurate with the size of the garrison, and each of these had overhead cover and a splinter shield. At each of the salients of the fortification there was a blockhouse which extended outward and gave the appearance of the towers built in South Vietnam in early 1952. This was required because the blockhouse had to cover the outside wire with protective fires and also had to provide observation over the surrounding area, as well as permit the use of grenades. The firing position accordingly had firing ports which were always angled, and was connected

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1 In certain posts having a rectangular form, and little exposed, one could be content with two blockhouses placed diagonally to cover the four sides.

2 The frontal facing firing port can only be justified in exceptional cases to cover a dead angle which is out of the range of the neighboring blockhouse or cannot be covered by grenadiers.
Fig. 7—Watch tower, "engineer type," South Vietnam
Fig. 8—Tower with a metal observation post
Fig. 9—Triangular military post for 60 men
with the observation and grenadier level by a trap door. Automatic weapons could also be used from this upper level to deliver long-range fires (see Fig. 10).

The Interior Court and the Redoubt

The post's interior court was highly vulnerable to shell fire and had to be provided some overhead protection against splinters. Tunnels could also be used to permit the defenders to move to their battle stations in the case when the position had been taken under surprise fire. The mortar, or mortars, which each garrison possessed had to be well dug in and the emplacement made easily accessible by a zig-zag trench. The same rule applied if the post had one or two artillery pieces.

The redoubt protected the vital centers of the fortification, i.e., the command post, the radio station, and the reserve ammunition. In addition, it had to serve as a shelter for the counterattack element and as a refuge for individuals who had been driven out of their battle stations.

It was usually desirable for the redoubt to be located where it would not come under the initial enemy fires. This is most easily assured if the redoubt is located in the center of the fortification. However, this reduces the already limited space within the fortification and increases the requirements for flat trajectory weapons. Such a location therefore would normally be found only in some rectangular fortifications. In the case of triangular positions, the redoubt was most often one of the salient blockhouses. Its external walls were made to blend into the ramparts of the fortification and its interior wall formed an arc connected to the inner wall at both ends.

Living Areas and Magazines

The living areas provided some comfort for the garrison, but defensive considerations were of primary concern. Care was taken to

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1Spare antennas had to be available.
Fig. 10—Diagram of a blockhouse
ensure there was no interference with fields of fire from the redoubt, or with the serving of the mortars. Living areas had to offer some protection from shelling and from incendiary fire. Accordingly, these were most often dug in or located near the ramparts. The aid station would, of course, receive maximum protection. Finally, some of the entrances had trenches and firing ports to permit a close-in defense in the event the enemy penetrated within the position (as in the case of a betrayal).

The armories and magazines had to be both underground and mortar proof. They also had to be secured against theft (solid doors and barred windows, if any). In addition they had to offer some protection against humidity and minimize the deterioration of the ammunition.

Fuel supplies had to be protected from fire, and were, except for small quantities, located in well ventilated areas removed from the redoubt or the magazines. Large fuel supplies were normally stored in the open in several revetted positions. Since the possibility of theft was relatively unimportant it was often better (particularly if the fortification was small) to store the fuel outside of the position in areas near the wire which could be kept under observation by the sentries.

THE TONKIN TYPE CONCRETE STRONG POINT

The concrete strong point extended over a much larger area than did the old posts, for it consisted of several pillboxes on the periphery, supported by one or more pillboxes within the strong point itself. The whole was enclosed within a deep barbed wire obstacle. The concept was to place under reinforced concrete a whole system of defensive fires. It followed that the number and location of the different pillboxes depended upon the configuration of the terrain.

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1 Of course, their construction would be as solid as possible, and all inflammable materials would be forbidden.

2 Two layers of earth and logs giving a minimum thickness of 0.75 m are necessary.
Structure of the Pillbox

The pillbox was the basic element of this type of fortified position. In general it had to permit the delivery of fires along two external flanks, have one field of fire within the position, and have the capability of executing frontal fires at short range (see Fig. 11). Some pillboxes were modified to provide an observation post, or to deliver long-range fires, or even to execute antitank fires.

There were a number of problems which affected the construction of the pillboxes. These included the number of weapons and crews to be provided for, and the degree of protection these would require. Basically, it was a question of working rapidly in a guerrilla environment with few local materials, or with other materials (stone and sand) which had to be brought in over long distances, of using scarce and constantly changing qualified personnel, of not having sufficient funds, and of having to build on soft ground which could support only light structures.

All these difficulties led to the development of a small, easily built fortification, parts of which could use substitute materials; as a result, such a fortification provided only the minimum essential protection, since it had to be both light and inexpensive.

Before arriving at the standard pillbox, which will be discussed later, there was a long trial and error period. From 1951 until the end of the war, the Engineer Corps designed and built a variety of models before arriving at one which appeared fully adequate.

Figure 12 shows several types of pillboxes intended for the periphery of the position; note the trend toward greater simplicity.

For the pillboxes which were to be located at the interior of the position, we started with a circular type which appeared simple but was actually quite difficult to build; we then evolved a hexagonal type, and finally arrived at the square form (see Fig. 13).
Fig. 11—Two fire plans
First half 1951
150 m$^3$ pillbox

Second half 1951
135 m$^3$ pillbox

1952–1953
110 m$^3$ light pillbox

Beginning of 1954
130 m$^3$ pillbox

Fig. 12—Types of pillboxes
End of 1951
200/240m$^3$ pillbox

1952
225m$^3$ pillbox

Living

1953
225m$^3$ pillbox

End of 1953-1954
130m$^3$ pillbox

Fig. 13—Evolution of the pillbox
At the last stage of evolution, the pillboxes intended for the peripheral positions and those to be in the interior of the position were almost the same. It was thus that we arrived at the standard pillbox of 1953-1954, which experience had revealed should be in three models:

- The first model was suited to the delivery of all-around fire and provided protection against 81-mm mortar and single 105-mm rounds (type No. 2 protection).
- The other two models had slight differences depending upon whether they were to be located at the exterior edge of the position, or in the interior. They both provided protection against single 155-mm rounds or two 105-mm rounds (type No. 1 protection).

The first model, for all-around fire and with relatively light protection, could be built in one and one-half months. It had embrasures of the "universal high Alps type" at all four sides. These were supplemented by smaller loopholes to permit the use of the MK2 grenade launcher (the automatic weapons and the MK2 grenade launcher were manned by the same personnel).

The radio, the telephone, and a cot for the radiotelephone operator were located in a little room 2 by 2 m, communicating with the observation post. A living area for eight men was designated. Grenade trenches were provided near the embrasures and at the entrance. The entrance was located below the rear embrasure and gave direct access to the living area. The entrance door was made of two steel plates with a layer of cement between. Natural ventilation was provided by overhead vents.

With an overhead slab 30 cm thick and uprights of 1 m, the completed fortification had a volume of 130 m$^3$. Its design was such that an observation post, with or without a periscope, could be added above the radiotelephone room, or a tank turret (with 37-mm, 47-mm, or 57-mm gun) could be placed above and just to the rear of the forward embrasure (see Figs. 14-15).
The all-around-fire type of pillbox was first built with the uprights of masonry, and the overhead and framing of reinforced concrete. This was done not so much for reasons of economy as for lack of lumber and reinforcing rod. However, the damage incurred in the attacks against the posts of Kesar and of Yen Vi confirmed the fact one cannot slight the materials when one builds fortifications. The mortar bombardment of the barracks of Ban Yen Nhan in 1954 proved that the 30-cm

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1It did not reach 10 percent of the cost of production.
Pillbox (all-around-fire)

Pillbox adjacent to barracks

Fig. 15—Types of pillbox plans
overhead did not provide type No. 2 protection and that it was necessary to adopt a thickness of 60 cm to obtain the desired resistance.

**Modifications of the Pillbox**

In certain cases it was necessary to locate a pillbox on one of the numerous embankments that can be found in the Tonkin delta. To avoid interference with the fields of fire we divided the pillbox into two sections, one on each side of the embankment (see below). In other cases the large number of peripheral pillboxes (usually over four) made it impossible to adequately cover a single interim pillbox; thus, two of these were required. It was also found that strong points required living areas for personnel in transit or for personnel serving artillery pieces. This led to the development of an interior facility consisting of a barracks connected at each end to one all-around-fire type of pillbox. These were made up of a variable number of standard cells measuring 6.4 m by 4.8 m. Ventilation was provided by windows under the overhead placed opposite one another. The axis of the two end pillboxes was staggered to permit flanking fires to be delivered along both sides of the length of the barracks.

**Pillboxes of Medium Protection**

The next figure is the pillbox type built in 1953, and made of reinforced concrete. Type No. 1 protection was provided by

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1 It was naturally impossible to cut into the embankment because this would result in flooding.
overhead slabs of 90 cm thickness made with reduced amounts of reinforcing rod. The peripheral pillboxes had a volume of 150 m³ and were made in the shape of a simple double casement with a forward position capable of delivering frontal fires. The flank embrasures were provided with low protective wings 1.2 m thick. A living area 3.6 by 4.4 m was set aside for personnel.

The interior pillboxes had a volume of 245 m³ and were developed from the hexagonal type. They had two forward positions fitted with turrets and included a living area plus a command post and a power supply source. A small communications center was located in the middle of the hexagon under the observation point. Power was provided by either generators or batteries ¹ (see Fig. 16).

Resistance of Pillboxes

A series of experiments was conducted against the 140 m³ type pillbox of light construction. ² Tests were conducted using weapons

¹All the loopholes were of the "Caric" (60°) type or the "Gazin" (90°) type completely shielding the opening. Artificial ventilation was necessary. This demanded more refined equipment than in the light pillboxes.

²These pillboxes had the following characteristics:
  o Forward uprights and wings: 1 m of reinforced concrete.
  o Overhead: 0.90 m.
  o Lateral and rear uprights: 0.50 m.
  o Double armored entrance door for personnel.
Fig. 16—Double central pillbox and command post with a living area
placed in the most favorable firing positions against pillboxes without revetments or camouflage. The results obtained are recapitulated in Table 2.

The conclusions which were drawn from these tests, with due regard to the artificialities involved, were: 1

- Small and medium caliber projectiles striking at normal angles of incidence will not appreciably affect reinforced concrete of moderate thickness.
- Although the aircraft which participated in the tests were not subjected to AAA fire and the target was easily identified, only one of the 30 bombs dropped hit the target. As could be anticipated, rockets proved far more accurate.
- The shaped-charge projectile is the most dangerous.

Efforts were of course made to protect against the shaped-charge projectile by placing an impact shield in front of the wall to be protected. But the embrasures and observation points had to be left clear, and attempts to shield these by heavy metal grills did not prove satisfactory and did hamper visibility. By the same token, angled embrasures could be protected by impact shields made of brick, or of earth tamped between two stone walls, or by a tight bamboo fence. Such impact shields had to be at least 2 m forward of the wall to be protected.

The events which occurred during the closing weeks of the war seemed to confirm these findings. In particular, the determined assaults of the Vietts against the strong points of Sontay, Vietri, Luc Nam, and Sept Pagodes resulted in bloody failures. However, it should be noted that on these occasions the defending garrisons had available the support of considerable artillery and of nearby mobile groups.

It was noted too that the quality of the concrete left something to be desired. This was due to several reasons: the agencies

1 The neutralization effect against personnel in the pillbox was subject to too many variables and was not considered.
<table>
<thead>
<tr>
<th>Type of Projectile Used</th>
<th>Effect Obtained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viet Minh bazooka</td>
<td>Normal angle of incidence, 60 cm of concrete penetrated. Angle of incidence greater than 45°, ricochet.</td>
</tr>
<tr>
<td>57-mm recoiless rifle, shaped-charge projectiles</td>
<td>Insignificant at 500 m.</td>
</tr>
<tr>
<td>155-mm shell, HML</td>
<td>90 shells fired, 10 direct hits. 2 dug pits 0.50 m in diameter by 0.40 m deep in the overhead slab. 6 hit the uprights protected by 1 m of rubble without causing significant damage. 2 hit the embrasure of the forward position and opened a hole 1/2 m².</td>
</tr>
<tr>
<td>Napalm</td>
<td>12 bombs dropped, 2 direct hits; air became slightly irritating; slight change in temperature; one connecting wall cracked.</td>
</tr>
<tr>
<td>Airplane rockets</td>
<td>22 rockets fired, 5 direct hits; ricochet on the overhead; upright perforated in an area of 1-1/2 sq m; inside surface riddled with small fragments.</td>
</tr>
<tr>
<td>250-lb bombs</td>
<td>22 bombs dropped, of which only 1 reached the target and ricocheted on the overhead, making a crater 14-cm deep. The other bombs fell in swampy terrain in a rectangle 150 m by 50 m and didn't even disturb the barbed wire entanglements.</td>
</tr>
<tr>
<td>500-lb bombs with delayed-action fuses</td>
<td>8 bombs fell at a distance of 15 to 35 m from the pillbox, none on target. The pillbox was tilted slightly, 3 to 4 cm. After 3 days the tilt increased to 20 cm (vertical displacement of 2 to 3 percent).</td>
</tr>
</tbody>
</table>
responsible for the construction would be inadequately supervised and could thus cheat on the amount of cement used or on the quality of the sand provided, and the reinforcing rods were improperly placed, primarily because experienced talent was unavailable.

The soil conditions, also poor, led to innumerable frustrations. It thus took a long time for the proper techniques of fortification building in the delta areas to be perfected. Finally, it should be noted that living conditions within the fortifications were marginal. This was due to two problems never satisfactorily resolved: ventilation and lighting.

**OBSTACLES**

All attacks on a post by the Viet Minh began with a silent approach in the course of which the enemy moved his assault echelon in as close as possible and readied himself for the task of breaching our wire obstacle. This latter task was entrusted to demolition teams who used homemade bangalore torpedoes made of explosive-filled bamboo.\(^1\) These teams were also responsible for mine clearance.

To discover this ant-like work in time, we had to organize a comprehensive security system: (1) outposts and patrols, operating at sufficient distance to intercept the movements of the assault echelons, (2) dogs to closely patrol the wire, and (3) sentries to maintain a constant watch.

Experience indicated that several barbed wire fences having a width of 6 to 8 m were necessary to stop an enemy attack,\(^2\) and that the most favorable arrangement included a vertical fence to prevent

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\(^1\) The teams also attempted to crawl up as close as possible to the blockhouses to place their demolition charges in the embrasures. The explosion of the charges was almost always the signal for launching the assault.

\(^2\) In order to avoid having a single demolition charge breach the obstacle.
crossing the obstacle with matting.\footnote{The Viet Minh feared the vertical fence. This was 2 m high, imbedded 40 cm into the ground (to prevent its being tunneled under), and was made of barbed wire as tightly knit as possible (maximum 20 cm), solidly bound at each angle. This vertical fence had to be complemented by a conventional double apron fence at its base.} It goes without saying that the obstacle had to remain visible and free of all vegetation, as did the whole of the beaten zone upon which the defensive fires were concentrated. This required a constant time-consuming effort which was nevertheless indispensible.\footnote{Various attempts to use "defoliants" were made, but none was found to be satisfactory. The hardiness of the vegetation in Indochina could only have been overcome by a generous use of such products, and this was prohibitive.} On occasion light sand was spread in front of the obstacle to facilitate its surveillance at night.

Moats as in eighteenth century fortifications were also used, particularly in South Vietnam. The ideal moat was 6 m wide and 2.5 m deep and was filled with water or with bamboo spears when possible. Since the Viet Minh would cross moats on ladders thrown from one side to the other, it was essential these be rather wide. Otherwise they were useless.

Mines were more frustrating than useful. They probably caused more casualties in our own ranks than in those of the enemy because of the difficulties imposed by their employment. When laid within the wire, it was impossible to keep this clear of vegetation, as the case of Camp Erulin (Tonkin) which fell on July 14, 1954, proved. This position was surrounded by a wide barbed wire obstacle dotted with mines which was quickly overgrown by a luxuriant vegetation. A succession of commanders tried to burn the vegetation without result, and efforts to accomplish this by hand caused many accidents. Efforts at clearing the obstacle were eventually abandoned. Thus it was that on the night of July 13, the Viet Minh found a magnificent protective cover over which he made his way with great skill and no loss.
The laying of mines within an obstacle is not recommended. It is better to place mines in readily accessible and open areas. However, they must not remain in the same locations too long, for the enemy will find and remove them, and use them against us. Unlike the obstacles, the minefield should not become a fixture. On the contrary, it should be moved periodically. This requires that careful records of the location of the mines be kept, which is not facilitated by the constant changing of garrisons.

**Lighting**

Artificial light is required for the adjustment of fires during a night attack and to facilitate observation, particularly over obstacles, at other times. A permanent lighting system covering an obstacle is excellent providing it is powerful enough to minimize shadows. Unfortunately, this system is vulnerable to routine breakdowns or to the deliberate cutting of wires. It of course depends upon an adequate source of power either from commercial outlets or from local generators. Such systems were being used at the end of the war for major installations, that is, aircraft parking ramps, ammunition dumps, fuel dumps, larger headquarters, etc.

Searchlights were found effective, providing they were properly used. Here again routine patterns of employment were the main problem. A beam of light sweeping an area from the same direction and always at the same regular interval is useless.

In the fortified strong points of Tonkin, both the peripheral and interior pillboxes were fitted with searchlights (usually headlights from vehicles) mounted over the observation points. The lights in the peripheral positions were usually put out of action quickly with the result that only those in the interior pillboxes remained operable for any length of time.

The arrangement of lights in an interior pillbox was as follows: four openings were made directly above the observation slots, and
one light was placed in each. Each light could sweep 90°, thus providing for all-around visibility, as shown in the following sketch.

In addition to the provision for this type of lighting to facilitate observation, there was the requirement for trip flares, and for illuminating mortar shells and flares, each of which had to be supplied in adequate quantities.

1 An interim pillbox so equipped required a generator of 5 to 8 kW. When there was no generator, the power was provided by 6-to-12-V batteries, periodically recharged by the communications section's generators. Experience showed that the ideal light had to have a diameter of 25 to 30 cm, a strength of 500 W, and a beam with a range of 50 m to 300 m.
THIRD PART

UNCONVENTIONAL FORMS OF THE WAR
X. OPERATIONS IN REMOTE AREAS

To the war without front waged in areas that the two opponents sought to control, and to the operations conducted along the borders of regions already under Viet Minh domination, yet another form of conflict which some justly called "War in Empty Lands" was added. There was a striking contrast indeed between the encounters that took place each day in the deltas or along the coastal plains, and the so-called campaigns that were played out in the vast expanses of rough country which formed the Upper Tonkin, Laos, and the Central Plateaux. In these extensive lands, the initiative lay with the enemy, except for our operation of 1947 to reduce the Langson-Thai Nguyen-Cao Bang triangle which the enemy then held.

The Viet Minh had quickly perceived that he could not hope to dominate the rice lands by force alone; neither the fanaticism of his troops nor their numbers could compensate for their lack of materiel. By 1950, Vo Nguyen Giap had come to understand that what can be accomplished by guerrilla action alone is limited, and he wrote, "It has been demonstrated that without support from mobile warfare, guerrilla action can only evolve to a point, beyond which it begins to lose its effect."¹

The progressive creation of a battle force was to provide him with the instrument required to undertake a war of movement. All that remained was the selection of objectives: "What the Viet Minh had to aim at were not the economic targets (there were none of these in Indochina except for the two deltas, which were denied to him), but the outlying areas where the French were weak. The loss of these would engender such political and psychological repercussions that the French would have to either commit additional forces there under unfavorable conditions, and thereby reduce their strength in the vital delta, or suffer the adverse effects which would arise from their

¹"The War of Liberation and the People's Army."
inability to defend them.\textsuperscript{1} Moreover, these remote areas were well suited to the fluidity of the Viet Minh troops and to their familiarity with the jungle.

Thus each winter the Viet Minh undertook offensive operations in the provinces where our meager forces served only to protect a few communications centers, to support civil authorities, or to deny the enemy the freedom to subvert the people without hindrance. Our reaction to these events was to reinforce some posts to ensure their retention, to establish new bases for ground and airborne forces to support their efforts to intercept enemy columns, or to interdict their lines of communications. But the difficulties we encountered in these actions were such that eventually a new tactical concept emerged; this consisted of the establishment of air supported defensive positions, not for the purpose of supporting search and clear operations or pursuits, but rather to attract the enemy and invite him to make these the object of his offensives.

\textbf{The Support of Garrisons}

During the first years of the war our mobile forces could move directly to the assistance of our posts in the mountain country and in Laos. However, the insecurity or absence of roads soon forced us to make increased use of air transport and air drops. This was done to provide reinforcements for a position, as at Cao Bang before its evacuation, to recapture an objective, as at Dong Khe in 1950, or to facilitate a disengagement, as at Nghai Lo in 1951.

Experience gained during this period revealed that to carry out a reinforcement, an airfield capable of taking transport aircraft was required, while for a disengagement it was best to operate against the enemy's supply lines. In fact, "against an enemy who avoids the direct approach in favor of the night attack or the ambush, and who must live off the country or be supplied by porters, only wide sweeping maneuvers well beyond the network of roads will yield any results.

\textsuperscript{1}"Insights into the Viet Minh Strategy," Colonel X.
These are particularly effective when they extend into zones where the porters have to pass, and these can be intercepted.\textsuperscript{1}

From 1950 on, the power of the Viet Minh offensives became such that it was increasingly difficult for us to maintain our system of posts. On occasion some of these could be held by a flexible defense such as was the case of Nghia Lo in 1951: "Several weeks before we launched our Hoa Binh offensive, the Viet Minh tried to seize Nghia Lo in the Thai country. After having committed his 316th Division, he succeeded only in providing the defenders with the opportunity to play a game dear to Liddel Hart and Mao Tse Tung: an apparent withdrawal followed by a violent reaction. After having been slowed by an elastic defense, the enemy was counterattacked by two parachute battalions dropped on one of his flanks, while the objective he sought was reinforced. As a result, he was forced to withdraw toward the Red River after having suffered heavy losses...."\textsuperscript{2}

It also happened that garrisons could be reinforced in time, thanks to the establishment of an aerial bridge, as, for example, at Muong Sai, Luang Prabang, or Pleiku. Or, they could be relieved by ground action combined with a threat to the Viet Minh rear, as at Ankhe in 1953 and the raid on Qui Nhon. More often, however, it was necessary to withdraw the garrisons if they were to escape total destruction at the hands of the enemy. The cost of these withdrawal operations was usually very high, despite the contribution our mobile forces made to the breaking of contact. The price for the withdrawals of Cao Bang, Sam Neua, and Ankhe is well known, and in the sections dedicated to jungle operations the question will be treated more fully.

An officer who had taken part in the 1953 Laos operations wrote:\textsuperscript{3}

"The withdrawal of the garrisons of Sam Neua, Sam Teu, Muong Soi,\textsuperscript{4}"

\textsuperscript{1}Colonel B, zone commander.
\textsuperscript{2}Colonel X, "Insights into the Viet Minh Strategy."
\textsuperscript{3}Captain X, sector operations officer.
\textsuperscript{4}Of the 1700 men who left Sam Neua April 12, 1953, only one group of 220 men reached the Plain of Jars after an exhausting eight-day march. In the weeks that followed scattered individuals were returned by our Meo underground. It should be noted that the basic cause of the disappearance of the Sam Neua garrison was, however, the fact that there was little cohesiveness within the native contingents.
Muong Hiem, etc., once again has emphasized the difficulties of such operations carried out under enemy pressure. The lessons and the mistakes to avoid can be summarized as follows:

- The withdrawal from a post must be as carefully planned and rehearsed as is the plan for abandoning a ship.
- The routes of withdrawal must be thoroughly known.
- Loads to be carried must be at a minimum.
- The highest qualities of leadership at all echelons are required to avoid a rout, the danger of which is augmented by nervous tension and by fatigue.
- The presence of a friendly underground is a major asset in permitting the reassembly of scattered elements.
- It is necessary, in addition, to establish collecting points for stragglers on the withdrawal routes that have been decided upon."

**FINDING THE ENEMY**

The problems that our mobile forces encountered in finding the enemy in the deltas where we had the advantage of being able to move across a veritable checkerboard of secure routes and military posts makes it easy to understand how difficult it was to seek out the enemy in the densely covered vastness of the remote regions.

Our failures are, unfortunately, too easily described: "The different campaigns we conducted generally proved that our forces were unable to annihilate, even with greatly superior means, an enemy who was inferior in materiel and did not have the support of the people, as he did in the deltas. The Viet Minh had large areas where he could withdraw when threatened, where he could obtain supplies, where he could regroup, and from where he could launch attacks against our isolated posts, organize ambushes, and surprise our battalions as they were displacing. In short, he succeeded in gaining the upper hand because, on the tactical level, he operated in two dimensions against a foe who, aside from aviation, most often operated only in one, i.e., along a road or a trail."

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1 Captain X, battalion commander.
Even more than in the deltas, we lacked information. Here is what Colonel X, a mobile group commander, writes on this subject: "It must be recognized that in Laos the lack of information was even more complete than in the Tonkin. It was practically impossible to find out the strength of the Viet Minh forces, their dispositions, and their movements by local means alone.... The little intelligence that was available was most often unreliable and, above all, was usually too late to be useful...."

It was the same in the plateaux. The example which follows is typical of the problem. "The Chuh Dreh operation launched from Pleiku and Ban Me Thuot had as its object the destruction of a Viet Minh battalion reported in the area. No sooner had the operation started than four or five Viet battalions appeared 40 to 50 km northeast of Chuh Dreh. This unexpected threat forced a change in plans, and the operation commander was directed to quickly reopen his road to Ban Me Thuot. Thus, because of the lack of information on the overall area, an operation which was intended to destroy a Viet force almost resulted in the destruction of our own. It follows that it is not enough to have detailed local information in order to undertake an operation. Such operations are part of an overall situation and cannot be initiated without a knowledge of all rebel forces which can intervene during its execution...."

"If the ambush that the Viet sprang at km 22 along the road to Ankhe on June 24 almost succeeded, and did cause us heavy losses, it was because he knew that he had 24 hours before the mobile group in reserve could intervene. The Viet knew the general situation as well as he knew the local one...."

"One may also recall operations where the commander decided to "bluff," this being a term often used to conceal ignorance of the enemy dispositions and far more appropriate, in this sense, to describe the chance that a poker play might take as opposed to a calculated risk in a game of bridge...."
"...Insofar as the procedures we used to pursue the enemy were concerned, these were useless if the approach to contact went beyond 24 hours because the enemy, kept informed by his agents, had the time to counter whatever threat we represented."\(^1\)

Our forces were not only poorly informed, but they were also poorly oriented as to the country, and above all were ill prepared to fight in the jungle or in heavy cover.\(^2\) As a result, all operations were characterized by an excessive slowness. "...Battalions moved in single file; weapons could never be put into action as quickly as necessary. The area was never searched properly beyond a narrow strip, and this only with excessive delays...." An occasional road block would impede progress for a considerable time and would cause casualties. It would then be necessary to carry these on stretchers with the result that the units lost all ability to maneuver. In these conditions, it was easy for the enemy to take advantage of the time and space and refuse contact in order to give battle on the terrain and terms of his choosing."\(^3\)

Certain of these inadequacies had become so obvious that at the end of 1953 the Commander in Chief ordered wide distribution of a bulletin which stated, in part:

"Commanders at all echelons still suffer from a 'motor complex.' They are used to moving with vehicles which restrict them to roads and certain trails. They forget that our enemy is completely independent of motor transport and can rapidly assemble and move large forces in difficult areas where it is impossible for us to follow and give battle unless we give up our motorized transport. Naturally, in combat far from roads we are denied the important asset of our artillery, but close air support is capable of replacing this to a degree. In any event, competent infantry need not fear meeting an

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\(^1\) Colonel Y, mobile group commander.

\(^2\) See the section devoted to this question in this volume.

\(^3\) Captain V, battalion commander.
enemy on equal terms, and certain of our units have demonstrated that they had both the will and the ability to do this. All our infantry units should follow these as examples.

"When in difficult terrain, our units often give the impression of blindly feeling their way and only meeting the enemy if he wishes. Thus, they engage in combat in a haphazard manner and under disadvantageous conditions.

"Even if it is normal for some of our expeditionary units to be initially disoriented in unfamiliar terrain, almost all our battalions are accompanied by native auxiliaries or local partisans. If they are not, because the expeditionary units come from some other region, the local area commander must do everything possible to make them available. The proper use of these natives will facilitate more rapid movement and help avoid surprises.

"Too many of our units will react defensively when they encounter the enemy either by chance or deliberate purpose. They think then of simply awaiting the enemy's attack...they do not react by attacking.

"Against an enemy who has a good eye for terrain, who maneuvers easily when caught off guard, and who pushes in an attack without regard for losses, it behooves us to modify our tactics and techniques accordingly.

"Whenever there has not been enough time to properly prepare a position, when security is uncertain, when personnel are not dug in, and when fire plans have not been coordinated fully so as to eliminate all gaps, then the only acceptable parry, if one does not wish to get badly battered, is the immediate counterattack. This, if necessary, should be carried out by the whole unit and should be a direct assault upon the enemy to counter his impetus with our own and thereby surprise and disconcert him.

"With troops that are too often poorly trained and poorly led, and which thereby lack cohesiveness and integrity, it is useful to recall that the offensive is easier than the defensive. The attack tends to weld a unit together, whereas a defense tends to shatter it.
Moreover, an advance demands less in the nature of maneuvering ability than does a fixed or flexible defense when it is not well organized on the ground, or when it suffers from less than energetic leadership...."

"Some of our troops are harassed or attacked in their bivouacs at night because they make camp too early in the day, or because their camps are not concealed but are set up in areas easily observed by the enemy....\(^1\)

"Commanders must have the will to demand of their troops, despite their weariness, the selection of and organization at a suitable locality in less than one hour. A unit which establishes its bivouac quietly just before nightfall in covered terrain is generally neither detected nor attacked in force....\(^2\)

"On occasion some of our units found themselves in the middle of an enemy position and attempted to return to our bases. A few of them succeeded in doing this. The ones who did were those who, regardless of the effort or fatigue involved, moved by night, avoided well traveled paths, lived off the country rather than asking for airdrops (which are always a give away), and skirted areas that were systematically patrolled by the enemy, such as military posts, crossroads, large villages, etc."

Our forces met with the greatest difficulties in trying to adapt themselves to this "war of moving fronts and of light rear bases" which the Viet Minh had imposed upon us; we had few formations that proved capable of moving over the countryside the way the enemy did. To compensate for this, we had to tie our operations to advance base areas which served as supply points, as temporary entrenched camps, and as places where our reinforcements could be brought. These advance bases were linked to our sources of supply by land or air routes. They provided the support for our combat operations and permitted us

\(^1\) In particular, too many units make the mistake of bivouacking for the night near drop zones.

\(^2\) No more than one hour before nightfall must be allowed for this purpose.
to push trails in the wake of our advancing battalions over which our motorized elements could be deployed.\textsuperscript{1}

**AIR SUPPLIED BASE AREAS**

The concept of advance bases was modified little by little in an unusual manner. Initially intended simply to support operations, these advance bases became in time the essential element of an operation itself and were designed to fix the enemy as were the fortresses of old.

This new concept clearly emerged at Nusan: "The Commander in Chief had decided to force the enemy to give battle on terrain which favored our employment of combined arms, which was near an airfield to permit regular resupply, and which was sufficiently removed from enemy outposts to allow its timely organization before the battle...."\textsuperscript{2}

The advantage of this plan was, first of all, that aircraft freed us from the need to secure a land line of communications. "Nusan fulfilled the three principal objectives which had been designated: to serve as the assembly point for the isolated garrisons of the military posts of the Northwest zone, to prevent Viet Minh forces to exploit their success at Nghia Lo by moving on towards Laichau, and to hold firm in case of attack...."

"Lacking adequate artillery and AAA, the Viet Minh divisions were unable to neutralize the air strip or seize any of the strong points...."\textsuperscript{3}

From that time on, the organization of entrenched camps and of air-supplied advance bases appeared to be the most effective means of parrying the seasonal offensives of the Viet Minh main battle force. Accordingly, the Commander in Chief wrote of the experiences of Nusan, the Plain of Jars, and of Seno as follows: "...the experience of recent operations in the mountain country, in Laos, and in the Montagnard areas

\textsuperscript{1}See the section on jungle operations.
\textsuperscript{2}Report of the High Command in Indochina.
\textsuperscript{3}Major X, battalion commander.
indicate that the enemy has suffered heavily, or has refused to
attack well organized entrenched camps formed by a system of mutually
supporting field fortifications, including an airfield, which have
enough personnel to permit extensive patrolling and to permit counter-
attack and the carrying of the fight beyond the defensive complex....
When the enemy commits major forces, our mobile elements fall back on
the entrenched camp. If need be, these are reinforced by land, air,
river, and maritime routes.... The enemy is then forced to undertake
veritable siege operations which are long, costly, and difficult, and
which require large forces vulnerable to air attack...."

One may question whether the battle of Dien Bien Phu invalidates
this concept. While it is not the purpose of this study to consider
strategic matters, the views of one of the participants may be appro-
priate at this juncture:¹

"The failure at Dien Bien Phu was due to the fact that this iso-
lated base was attacked by an enemy with artillery and AAA. A study
of this operation can thus furnish lessons as to the requirements that
an air-supplied base must meet in order to resist an enemy possessing
such means.¹ However, insofar as possible hostilities in a non-
European theater of operations against rebels who have neither ar-
tillery nor antiaircraft defense are concerned, the failure at Dien
Bien Phu does not apply. The validity of the concept of air-supplied
bases is clearly brought out in the experience of Indochina. It is
a solution well suited to the problem of reestablishing our power and
our influence in regions which are remote from our bases and are
linked to them only by poor or insecure land routes. For whatever is
said or done, our military system is such that our forces will not be
capable of "floating in space" in the way the Viet Minh have succeeded
in doing. To fight in remote regions, we will always need some bases,

¹Major X, commander of a strong point at Dien Bien Phu.
even if these are to consist only of small temporary strong points supplied by air. The important thing is not to shut oneself up in these...."

Thus the campaign in Indochina emphasized the importance of strategic mobility based upon air transport in areas devoid of land communications; it also proved that tactical mobility was just as necessary without making this requirement synonymous with motorization. In addition, all of our operations revealed that where warfare is waged without fronts, as was the case in the distant expanses of Indochina, there comes a moment when each combatant learns to appreciate the qualities of the rebel as a man. When this happens it becomes unrealistic to think in terms of success as dependent upon materiel superiority or arms alone; nothing can replace competent men in adequate numbers, and only the recruiting of local personnel who know the country will ensure the availability of a suitable complement to our own armed forces.
XI. IRREGULAR FORCES

In the vast territories that fell into Viet Minh hands after 1945 wherein we were never able to regain a foothold except during an occasional raid, the creation of irregular units appeared possible because the terrain was eminently favorable--very marked relief, with dense vegetation often taking on the aspect of an inextricable jungle. The organization of such irregular units was nevertheless delayed because of ethnic reasons.

The success of Viet Minh propaganda themes on the Vietnamese populations and the weakness of our own political action rendered us incapable of raising any armed opposition to our enemy in regions with a large Vietnamese majority. Our inability to thwart the subversion of the Tonkin delta was the best proof of this. The only element that could still serve our cause was the racial enmity that the Montagnard people and certain ethnic minorities had for the Vietnamese of the delta and the coasts.

In the zones of the Thai or in those of the Meo or Man race, the Vietnamese was an enemy, but it was difficult to stir up a hostile movement, and particularly a rebellion, as long as the Viet Minh did not undertake operations in the mountain country of the Northwest--that is, before 1950.

What were the results obtained by our irregular formations? One can cite as an immediate credit the immobilization of several Viet Minh battalions. In January 1954, four Viet Minh battalions were engaged in efforts to suppress the irregulars in the Laichau region.

1 For example, Tuyen Quang at the time of the column of 1949, or Phu Doan at the time of Operation LORRAINE in 1952.

2 It is to this opposition that the plateau of Central Vietnam owed its long tranquility, and it is due to the existence of the Nungs that the coastal strip extending from Hongay to Moncay was impervious to Viet Minh infiltration.

3 This penetration of the Viet Minh armed forces into the mountain country is one of the proofs of their adaptive powers and of their training ability, as well as of the determination of their High Command, for it was well known and admitted that "the Vietnamese hates the mountains and forests and cannot live there."
There were eight battalions so engaged by the end of April 1954; in addition, other battalions were immobilized to guard bases that our partisans threatened. Moreover, the presence of irregular forces often made it possible to save the survivors of attacks on some isolated posts.¹

Secondly, irregular forces caused a feeling of insecurity in the enemy camp. Their activity was considered by the Viet Minh political cadres as "one of the most insidious devices used to weaken the Viet Minh organization." It seems, nevertheless, that this insecurity reigned primarily at the lower echelons and in isolated units; at no time did the Viet Minh High Command seem to be disturbed by the operations of our irregular units, although some were highly successful, as for example, the attack of Coc Leu-Laokay, October 3, 1953.²

On the other hand, during the battle of Dien Bien Phu, the irregulars failed completely in their attempts to interdict the Viet Minh communication routes that linked the region of Phuto and the Tanh Hoa to Dien Bien Phu, a distance of 400 to 550 km in a heavily forested and mountainous zone. In particular, the section Conoi-Dien Bien Phu, 200 km long, was at no time seriously harassed.

There are a number of reasons for this poor showing of the irregulars, which, by the end of the hostilities, numbered 15,000 men. First, the effectiveness of the irregulars was doubted for a long time. A report

¹ An example is the Meo irregulars of the Xieng Khouang region who in 1953 assisted in the reassembly of scattered groups of the column of Sam Neua, whose withdrawal almost had tragic consequences.

² An extension of our underground was planned for October 1953 in the Baxat, Binhlu, Chapa, Than Uyen region. To facilitate this, it had appeared desirable to create a diversion against an objective that was plausible and sufficiently distant and was one where the enemy would seriously commit himself; the double village of Coc Leu-Laokay was chosen. Six hundred partisans attacked Coc Leu October 3, with air support and one paratroop commando coming from the Tonkin delta. In the course of several attacks, the partisans penetrated the village and, supported by the bombers, inflicted casualties on the Viet Minh estimated at 150 killed and wounded.
states that the Mixed Intervention Group (G.M.I.)\(^1\) had a difficult beginning "very often marked by hostility on the part of commanders at zone or territorial echelons with whom our troops had close contact." This lack of confidence could, however, be justified, for "we did not have, as did our enemies, an ideology or xenophobia to inculcate, nor did we have a new politico-social system to offer.... We were not sure of returning to Cao Bang or to Vinh...nor did we know what would be the balance between the results obtained and the reprisals that, sooner or later, the actions of our irregulars would bring down upon the heads of the imprudent or of our loyal supporters." But above all, this lack of confidence was a manifestation of the skepticism displayed by the great majority of our leaders towards all the unconventional forms of war.

In short, the conflict in the rear areas was undertaken too late. It was only in 1951 that the Mixed Airborne Commando Group (G.C.M.A.) could begin operations. But by this time the Viet Minh already controlled large areas. It was thus too late to entertain any hopes of setting up a powerful organization, and the difficulties we encountered added to the evidence proving that it is necessary to forestall and anticipate the enemy in the areas where he has not yet infiltrated.

Any supposedly secure zone can one day become the scene of combat. It is thus necessary to prepare for this possibility in order not to encounter insurmountable difficulties later. This preparatory effort should include the creation of armed cells, the designation of intelligence agents, the establishment of supply networks\(^2\) and, finally, the training of the necessary cadres.

The creation of irregular forces was also slowed down by the scarcity of officers familiar with the ethnic and geographic details of the selected regions and of the Montagnard languages. Here again, the absence of a "Native Affairs Corps" was keenly felt.

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\(^1\)The G.M.I. was created December 1, 1953, to lead the fight in the enemy's rear areas. It replaced the Airborne Mixed Commando Group (G.C.M.A.).

\(^2\)The distribution of weapons, ammunition, etc., is possible only after the revolt is set into motion.
It was necessary also to train native cadres and assign instructors to teach guerrilla warfare. A school was in fact created at Cap Saint-Jacques, but it did not open until June 1951. Moreover, the G.M.I. had poor liaison with similar organizations in France and thus obtained little support from them.

The G.M.I. was difficult to get started and initially lacked means. However, the efforts later made for its support were considerable, particularly in aerial resources. By the end of the hostilities, the following was allotted each month for the support of irregular force operations: (1) 1,500 flight hours of C-47's, (2) 300 flight hours of reconnaissance aircraft, (3) numerous B-26 missions, and (4) airdrops of close to 300 tons of supplies and ammunition.
XII. OPERATIONS IN THE JUNGLE AND HEAVY COVER

The characteristics of jungle warfare are well known, but in Indochina these were particularly striking because wooded areas cover two-thirds of the country, the undergrowth is unusually dense and inhospitable, and there are few trails or paths and very limited resources (human and food). This explains why we fought little in the Indochinese forest.

The rebels were not prepared any more than we were for jungle combat. Almost all of the recruits came from the coastal plains and the two deltas. They had to overcome a natural aversion to the twilight under the jungle canopy and had to adapt themselves to new living conditions. But the enemy found in the jungle a way to avoid our cannon and, above all, our aircraft. Thus, little by little, he was driven to conceal his bases, workshops, hospitals, and command centers under the screen of tropical vegetation.

The majority of his units were organized and trained in the wooded valleys of the piedmont or on the rivers descending toward the Tonkin delta. There the units lived between operations, bringing back what they captured and carefully preparing their future engagements. It was thus from a protective reflex that the Viet Minh chose the jungle as a refuge, and lived within it.

For our troops, on the contrary, the forest represented only one more hostile element. Far from finding shelter there, we could expect only hidden and constant dangers as well as added difficulties of life and of movement. All offensive operations first encountered nature's defenses: "it was fatigue due to the inextricable entanglement of a vegetation apparently allied with the enemy, the depressing climate, and the thousands of hostile insects." It was the dejection due to an

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1 Eighty-six percent of Indochina is covered with very dense natural vegetation, and jungle extends over at least forty-six percent of the land.
2 Except in open forest.
3 Captain X, company commander.
overwhelming impression of solitude. A man feels himself to be desperately alone, out of the reach of reinforcements...."¹

We were inadequately informed about the enemy due to a lack of maps and agents as well as to "the excessive time it took to transmit information in relation to the transience of objectives."

² We managed nevertheless to advance, but at a speed that varied between 300 m and 3 km per hour depending upon the thickness of the underbrush; fatigue was in inverse proportion to speed. It was impossible to establish a precise march schedule, for the essential security measures slowed us even more.

The enemy used combat techniques that were simple but singularly effective; our approach was always known to his sentries posted along the edges of the jungle and on the trails penetrating into its interior. As soon as he was alerted, the Viet Minh unit would send out scouts who followed us step by step while we were delayed by snipers, booby traps, and mines. When our troops had become strung out, the enemy further fractioned our slower columns by ambushes set in clearings or along the length of the trail, while other units harassed us. The terrain, coupled with these tactics, made it impossible to undertake any effective sweeps or encirclements: "in the forest one encircles nothing."³ To this first lesson another one came to be added: the absolute necessity to lighten the load of the units.

In fact, "the mobile group of the 'delta' type proved unsuited to the combat on the plateaux. Their inadequacy was largely due to their many vehicles."⁴

"Combat in heavily covered areas requires the infantry to engage in close combat; immediately available short-range firepower is thus

¹Lieutenant Y.
²Major Z, battalion commander.
³Major X, battalion commander.
⁴Colonel Y, commander of a mobile group in the plateaux from January to July 1954.
more important than heavy and sustained fires. The combatants should be as lightly loaded as possible... The platoons are organized into two squads of riflemen and one support squad with two automatic rifles; companies most often carry only one 60-mm mortar and battalions only two 81-mm mortars.\footnote{Colonel Y, commanding mobile group in the plateaux.} It was demonstrated time and again that, when combat begins, "the advantage lies with the well trained and lightly equipped rifleman accustomed to life in the jungle."

When a large force encounters the enemy, only part of it can usually engage. Thus, a company that is well led and well trained often proves to be more effective than a battalion. We are thus led to think in terms of very light units adapted to life in the jungle who, by acting as trackers, can fall upon the enemy by surprise.

"Whenever a column penetrates into the jungle surreptitiously, as for example at night, the enemy will not know of its presence. And when the unit is discovered, or its presence suspected, it will still be impossible for the enemy to determine with any degree of precision its strength, armament, or disposition. Then, after the unit has decided to act--to reveal itself--it can, if it desires, conceal itself again or discourage pursuit by placing booby traps, trail blocks, etc."\footnote{Major X, battalion commander.}

Surprise is possible only by:

- Crossing the borders of the jungle at night in such a manner as to escape detection by enemy sentries,
- Removing traces of passage, either by falsifying the trails, by following a river bed, or by progressing in the midst of thickets,
- Concealing the bivouacs.

In order for such units to be able to subsist several days or, if need be, several weeks in dense forest, a supply base must be set

\begin{footnotes}
\item[1] Colonel Y, commanding mobile group in the plateaux.
\item[2] Major X, battalion commander.
\item[3] The following procedure is summarized by Captain X: "The column sets a trap, stops, makes a left face and advances in a line as lightly as possible a good hundred meters before resuming its march in the original direction. A false trail is thus created off towards the right."
\end{footnotes}
up for them in the approximate center of their zone of action, which can be supplied either by airdrop or by helicopter. The establishment of this secret base should follow the rules that the experience of the French underground had previously validated and which were again confirmed:

- Choose an uninhabited locality.
- Attempt airdrops or helicopter landings only at night and with maximum secrecy.\(^1\)
- Maintain radio silence.

In addition, the base must be moved every few days.

The above procedures apply in general to units of battalion or lesser size. When a larger force, in particular a mobile group, must operate in the jungle, it should be formed into several columns, none of which should exceed one to two rifle companies in strength. Further, part of the heavier equipment must be left behind.

Artillery and mortars had a limited effectiveness for reasons that are well known:

- A lack of accurate maps, and the difficulty of using aerial photographs because of absence of reference points.
- Difficulties in displacing artillery because of the dense vegetation.
- The impossibility of observation and inadequate information on the enemy.

Unless one is operating in open forest, or unless clearings are available, the heavier supporting arms have only marginal effectiveness. However, some are normally required. When suitable trails do not exist these can only be transported on ponies, mules, or, at times, on the backs of men. This limits the armament that can be used to 120-mm or 4.2-in. mortars, 75-mm recoilless rifles, or mountain artillery. The

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\(^1\)Such an experiment was not made in Indochina, but in Malaya by the English. Several reports, in fact, contain this suggestion.

\(^2\)Each time that an airdrop was made by day to supply a column, the Viet Minh were able to detect its presence.
recoilless rifles and the mountain artillery suffered from the same drawbacks; the effectiveness of the shells was relatively modest considering the weight of the weapons and the ammunition.¹

The mortars, despite their greater dispersion and their shorter range, had greater utility. The U.S. 4.2-in. mortar, in particular, was quite satisfactory.²

There is of course the problem of ammunition resupply. "In one day a mule train can resupply 224 rounds to one company at a maximum distance of 12 km; in two days, at a maximum distance of 24 km. And in any case this is all purely theoretic, since some mules must transport unexpended ammunition when the position is changed. Beyond one day's march, the capabilities of a mule train are substantially reduced.

"The report of May 10, 1951, on infantry combat in the mountains affirms that it is better to have few weapons with ample ammunition than many weapons with little ammunition. This fact invalidates the normal organization of the heavy mortar company which can be characterized as providing for a unit with too many tubes and not enough ammunition to fire from them.³

"One should also note that mule trains are extremely vulnerable and must be protected at all times. When lines of communication become extended, the manpower requirements for this purpose become excessive. We are thus led to the conclusion that the packing of heavy supporting arms in Indochina is impractical. This confirms the experiments

¹ In addition, mountain artillery is complex, and recoilless rifles have the disadvantage of the heavy backblast when fired.

² Let us remember that this mortar has a range of 5,350 m and that its probable deviation is only 1.3 percent of the range. The heaviest load weighs 68 kg, and five mules transport the piece. If the case containing two rounds weighs 32.6 kg, one mule can thus transport four rounds. This adds up to around 134 mules for one mortar company with eight weapons, each allocated 28 rounds.

³ Study by a colonel commanding a mobile group.
conducted in 1951 in the French Alps with a 120-mm mortar company using animal transport, which showed that the packing of heavy mortars is not effective.\textsuperscript{1}

The only way to compensate for this disadvantage is to arrange for resupply by air, even if this may give away the battery positions to the enemy. Alternatively, artillery or mortar support may be replaced by close air support provided on call and without delay.\textsuperscript{2} This, of course, assumes that the pilots will be able to identify their targets quickly and accurately.

In jungle operations, it is also necessary to recognize the security problems encountered by motor convoys covering long distances in heavily wooded zones. Obviously, one cannot establish a series of posts the length of the itinerary to permit its surveillance throughout its course.\textsuperscript{3} And even if this were possible, it would be necessary to clear both sides of the route of all vegetation for a distance of 100-200 m.\textsuperscript{4} Therefore, only the normal security measures can be taken.

If a convoy is relatively small, i.e., does not exceed 50 vehicles, it is formed into several serials which are provided with an escort of armored vehicles and mounted infantry. The convoy then moves in stages preceded by a road-opening detachment charged with patrolling, reconnaissance, and mine clearance tasks; the armored escort is dispersed at several locations within the column and is prepared to provide immediate support in the case of an ambush.

\textsuperscript{1} Study by a colonel commanding a mobile group.

\textsuperscript{2} Major X, who commanded a group of several battalions, states that it is necessary "to compensate for the absence of artillery and all resupply by land or river by using aerial resupply and close air support provided through an air liaison detachment assigned to the headquarters.

\textsuperscript{3} A convoy to Dalat was successfully attacked by the Viet Minh at the end of 1947 at a short distance from a post, due to the heavily covered terrain. Colonel de Sairigné lost his life there.

\textsuperscript{4} This very costly procedure was used in South Vietnam on particularly dangerous sections of road or railways. It proved to be excellent. (The road from Thu Duc Mot to Loc Ninh is an example as is part of the road from Bien Hoa to Baria.)
If the convoy is large—more than 100 vehicles—the road and its borders must be reconnoitered before the convoy moves out. Security guards must be prepositioned at the more critical points of the itinerary, artillery should be emplaced so as to cover at a minimum the more dangerous areas, and mobile reserves must be held immediately available at previously selected locations. Vehicles are then dispatched through this secure corridor either individually or in small groups, so that if the enemy has succeeded in infiltrating a small detachment to set up an ambush, he will only be able to strike at a few vehicles and the losses will thereby be minimized.

In all cases the security of a convoy depends upon the establishment of an effective communications link between all interested parties and upon the provision of air support: continuous air observation, prompt arrival of attack aircraft held on ground alert, and use of forward air controllers to direct airstrikes on selected targets.\(^1\)

In conclusion, the movement of a motor convoy in an insecure and heavily covered area should be organized as a combat operation. In so doing one should not count upon taking a chance or merely relying upon boldness, because any negligence in matters of proper security may have disastrous consequences.\(^2\)

It should also be noted that in cases where routes were particularly insecure, it was necessary to rely upon air transport. An air-supplied base would thus serve as a veritable port where motor convoys could come for resupply. This was the case of Seno, which formed an island in the midst of the open forest of central Laos and included an airstrip usable by C-47's surrounded by supply dumps. Its defense was provided by one or two infantry battalions supported by artillery, armor, and engineer elements, and reinforcements were available in the

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\(^1\)The difficulties of air intervention in wooded areas need to be emphasized. Actually, only the marking of objectives by a light observation aircraft allows the strike aircraft to deal with the enemy effectively and to avoid mistakes.

\(^2\)We were provided with an example at the end of June 1954 when the convoy of a mobile group was taken by surprise. The casualties amounted to 50 killed, 253 wounded, 771 missing and 240 vehicles destroyed (which had contained the materiel for one artillery battalion).
event a major threat developed. Seno was thus the essential base area which permitted the support of operations undertaken in central Laos, particularly during the winter of 1953-1954. Under normal circumstances this base could be resupplied both by land and air routes. However, if it became necessary, it could be resupplied entirely by air.

1 Some of this surface traffic could move by the Mekong River all the way to Kratie.
XIII. COMMANDO OPERATIONS

A war without front provides many opportunities for carrying out commando operations: surprise attacks against command posts, destruction of supply dumps, sabotage of communications routes and logistic facilities, ambushes, etc. Beginning with our spectacular raids against Viet Minh rear areas in the mountain country, and extending through our operations against Viet Minh villages along the borders of and within the deltas, and through our clandestine landings along the coast of Vietnam, a great many of our land, airborne, and amphibious operations were carried out in commando fashion.

The same held true on the Viet Minh side, and several attacks against our airfields and command posts, as well as the sabotage of some of our supply installations, can be considered as having been commando actions.¹

A study of these varied operations yields but little in the way of lessons; all it does is to confirm the validity of existing procedures. Thus, success is generally dependent upon exact information, a very detailed and secret preparation, and speed in execution.

There were few occasions when we could exploit our information, since this was difficult to obtain, and what we did get was often inaccurate. This lack of information was due in part to the small size of enemy headquarters and to the high degree of secrecy with which the Viet Minh normally operated, and in part to the dispersal of their supply installations, their camouflage discipline, and, above all, the flexibility of their supply system. Thus, there were few objectives which, by their magnitude or by the chance of success they offered, could justify that we undertake an operation

¹Attacks on the airfields of the Tonkin: Gialam on November 3, 1948, and March 4, 1954; Cat Bi on March 7, 1954; DoSon on February 1, 1954.

Surprise attacks on the Vietnamese Unit Leaders' School at Nam Binh on April 30, 1953, and on the command post of divisional element No. 3 at Thai Binh on December 4, 1953.

against them. The required favorable circumstances were, in fact, only encountered twice:

- On July 19, 1949, when an amphibious raid was conducted against Tamquan where there was located the largest Viet Minh depot of railway equipment in Central Vietnam.¹

- On July 17, 1953, when an airborne raid, code name HIRONDELLE, was conducted against supply installations at Langson.² Of the many other operations, some, like those against Nguyen Binh in South Vietnam in 1947 and those of the Dinassauts in 1953 and 1954, yielded nothing, while some encountered a well organized enemy who was determined to resist.³

It was as difficult to prepare these operations secretly as it was all others. It was even more difficult to the extent that certain commando operations called for using joint facilities, and this increased the chances of disclosure. It may be useful to recall here that the success of Operation HIRONDELLE was due, in large part, to the rigorous security measures that had been taken.⁴

¹Destructions achieved included 6 locomotives, 240 railroad cars, 1 repair shop.

²Materiel seized or destroyed included 1,000 automatic rifles, 255 individual arms, 6 trucks, 250 tires, 18,000 litres of gasoline, 55 motors, 1 ton of ammunition, and considerable other materiel.

³One can also cite the airborne Operation MARS carried out in March 1951 on Viet Minh depots and workshops in South Vietnam.

⁴For example, the commando raids of North Vietnam to destroy the Viet Minh ammunition depots hidden in the karst areas near the Bay of Along.

⁴Preparation of Operation HIRONDELLE, according to the report of the commander on the lessons to be drawn from the campaign:

"The success of the operation depended upon avoiding disclosure of the time and place of its execution. All the work of preparation was done with absolute secrecy by the group commander, assisted only by one intelligence officer. The operation orders were drawn up only after July 15."

"From the time of the general briefing until the embarkation, the most stringent measures were taken to avoid any security leaks through contact with the outside."

"The units were placed on alert on the 16th at 1400 hours and confined to their quarters. The briefing of the commander of the airborne troops took place on the 16th at 1500 hours."

"The commanders of the subordinate units had one hour to conduct their individual briefing..."

"The first aircraft took off at 0700 hours the next day."
Speed of execution was our only way to avoid having the objective disappear before being reached. The mobility and fluidity of the Viet Minh headquarters often allowed them to slip through our fingers. There is no better example of this than Operation LEA, in the course of which the 1st Battalion was dropped on Bac Kan, October 7, 1947, only a few hours after Ho Chi Minh and all his government had left the city. This disappearance of objectives was even encountered in the case of supply depots which the Viet Minh would often succeed in moving or hiding during the few minutes between the time the paratroops left the aircraft and the moment they landed. The security provisions for all the Viet Minh depots included an alert system and the ready availability of transport that permitted evacuation in an incredibly short time. Consequently, in order to win what amounted to a race between the Viet Minh sentries and our commando units, it was absolutely necessary:

- That our airborne or amphibious troops land as close as possible to the objective, that they regroup quickly, that they orient themselves without hesitation, and that they press forward with the conviction that a gain of a few minutes could be of decisive importance.

- That our ground elements (commandos and irregulars) know how to infiltrate into and live within a rebel zone, in order to be able to reach their final assembly positions in the immediate vicinity of their objective without being observed.

It goes without saying that the nature of the terrain, the status of training of our troops, and the vigilance of the Viet Minh were obstacles to the attainment of these conditions.

The withdrawal of troops who had carried out a commando operation proved to be equally delicate, except for irregulars who were deep in the Viet Minh rear or in the case of an amphibious raid. In these circumstances, the forces were withdrawn by using the same means that brought them in (for example, raids on Quinhon, Tamquan, etc.). However, when it was a question of surprise attacks launched over air or land routes from the zones that we controlled, the problem of the return determined the size of the effort and even whether or not it
could be carried out.\(^1\) This was a consequence of our inability to move around and to disperse and live in an area subject to Viet Minh politico-military control.\(^2\) Only a few particularly well trained units succeeded in staying more than a few hours beyond our forward posts.\(^3\) The same problem did not arise for the enemy, who could fade away instantly and find a thousand refuges in the villages surrounding the objective.\(^4\) For the larger operations we had to provide for a number of intermediate assembly areas. For Operation HIRONDELLE, for example, more than twice the number of troops actually engaged in the raid were deployed in the area midway between Tien Yen and Langson.

One final point remains, and that is the fact that it was eventually found necessary to coordinate commando operations at the territorial, or occasionally, at the theater command level. While it is important that sector and zone commanders have the latitude to reconnoiter local areas and organize their own small-scale surprise attacks at opportune moments, it is equally important that major operations, particularly raids deep in enemy territory, be carefully prepared and launched as part of a general plan of the higher echelons of command. This makes it possible to insure what may be considered an identity of purpose achieved by widely separated operations. The Viet Minh furnished a striking example of this when they launched a series of raids against our airfields in Tonkin coincidentally with their first attacks against the entrenched camp of Dien Bien Phu. At this same time they also increased their sabotages and ambushes along the road and rail line between Hanoi and Haiphong. Similarly, our commando raids along the coast near Than Hoa in October and November 1953 took place at the time of Operation PELICAN which was, in turn, a deception operation undertaken in support of Operation MOUETTE.

\(^1\) The capabilities of airborne forces were limited by their need to recover their parachutes. (See section on airborne operations.)

\(^2\) Helicopters would have been most useful.

\(^3\) This was the case of the famous Vandenberghe commando.

\(^4\) The only serious failure encountered by the enemy took place at the time of the raid on the ammunition depot at Kien An on April 21, 1953. Part of the troops that had taken part in the action were intercepted by our forces as they attempted to reach Tienlang. The Viet Minh casualties were 300 counted dead, 139 prisoners, and a large number of weapons captured.
Commando operations must be coordinated even if this may cause an opportune occasion to be lost. Ground warfare involves such a complexity of dispositions that a sabotage or raid against one lucrative target may bring on a series of reprisals both against us and against populations loyal to us. We witnessed a bloody example of this when the enemy raided the convalescent center at Cap St. Jacques as a blind reprisal for an action undertaken by our naval commandos against one of their summer encampments at a nearby beach.
XIV. RIVER AND COASTAL ACTIONS

In the course of the campaign the Viet Minh, who was a remarkable infantryman, never revealed himself to be a sailor. We never did engage the enemy afloat because he did not possess small boats especially modified for combat, and each time his transport craft were taken by surprise he never tried to use his armament to defend himself. By a sort of contradiction the Viet Minh, who did not hesitate to launch attacks at night against our fortifications, always showed on the water "a timidity and occasional lack of aggressiveness when it came to exploiting the effects of his fire-power or mines. In no case did the enemy try boarding, which would have placed us in mortal danger many times." 

We therefore encountered only ground elements posted on the banks to deny us free use of the waterways. These used mines controlled from the shore to permit selection of targets, or laid ambushes which were occasionally coordinated with the use of mines. In addition, enemy swimmers were a constant threat to our anchorages.

In these varied activities the Viet Minh relied on his ability to collect intelligence and to obtain the support of the people along the rivers, either through terrorism or persuasion. He was meticulous in the planning of even the smallest actions, masterful in the use of terrain and camouflage, and most often enjoyed the advantage of surprise because of his excellent fire discipline. "He could also rely

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1 The reading of this section should be preceded by that of the section on "River Forces."

2 With the exception of a flotilla of a dozen small ships of various types (ferrys, tugboats, etc.), of which one was armed with a 75-mm antiaircraft gun taken from the "Admiral Charmer" that was encountered in the course of a raid carried out between Rach Gia and Camau in February 1946 by a platoon of the 6th Colonial Infantry Regiment embarked on 2 LCA.


4 In the narrow streams and on certain canals the enemy also set up obstacles to cut off all navigation.

5 Also because this type of mine was easier to install.
on the effectiveness of local partisans. The Viet Minh knew how to use the numerous junks and local sampans to infiltrate everywhere and break out of our most carefully deployed formations. Our systematic destruction of all native craft spotted in the course of the operations only affected a small proportion of the total craft available throughout the area. The Viet Minh also often used tree trunks to provide flotation for small groups of infiltrators or saboteurs. The enemy knew how to take prompt action against our static elements (military or river posts) in coordination with attacks against units sent to reinforce a beleaguered post (river convoys).

On the other hand, the Viet Minh was handicapped by "an almost total lack of 'naval sense' and revealed an ignorance of the capabilities and weaknesses of our craft. He only partially exploited the difficulties we had with river navigation, had only an elementary knowledge of naval materiel, and was invariably surprised after an initial exchange of fire by the density and extent of our return fires." He counted too much on "the protection and the camouflage of his weapons which were often set up in emplacements permitting only limited fields of fire against moving targets at short range such as our self-propelled craft." Finally, he did not concentrate his means sufficiently except on rare occasions. "Most often he used only one or two recoilless rifles and a few mortars or automatic weapons. When greater numbers of weapons were available to him, these were dispersed along the river banks. This concern to protect their weapons by dispersing them often reduced the effectiveness of their fires. "Our poorly armored craft would have been less resistant to heavy concentrations of fire, rather than to less heavy but sustained fires. These last permitted us to react quickly and successfully after the initial seconds of confusion incident to going to battle stations."

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1 Admiral commanding the F.M.E.O.

2 Sometimes even for several kilometers, as at the time of the fight on the Day River in November 1952, where some twenty 75-mm and 57-mm weapons and more than 150 automatic arms were dispersed over 7 km.
In summary, the enemy showed himself incapable of going beyond "the tactic of the ambush at point-blank range or of individual action against ships at anchor, to more complete actions coordinated in time and space and directed against our major troop concentrations. He also displayed a lack of imagination in the selection of means and localities for his attacks, these remaining practically the same throughout the campaign."\(^1\)

Of course this weakness and inability to adapt to river warfare was not to last, and the increase of enemy resources, especially in 1954, tended to make more difficult the three missions which our river forces had to assume. These were: to retain free use of the waterways, to conduct assault landing, and to provide security for anchorages.

The techniques used to meet these several requirements evolved in the course of nine years of war as our resources and those of the enemy changed, without, however, resulting in any significant conceptual modifications. The techniques described hereafter, which were those used at the end of the campaign, were therefore essentially those used throughout the period of hostilities. "They are dominated by the fact that, contrary to the ground forces, river forces never enjoy the advantages of camouflage, and only rarely can they dig in. On the other hand, they have generally the advantage of power and mobility. If, therefore, tactical surprise is most often denied to them, strategic surprise is one of their best trumps."\(^1\)

**THE CONVOYS**

All groups of ships sailing together, whether or not cargo craft were included, adopted the following formation, at least in North Vietnam (see Fig. 17): An "opening group" consisting of three sections of mine sweepers plus one relief sweeper headed the formation, with an LCM (Monitor) as lead guide. A large fire-support ship followed the last sweeper by a hundred meters. Behind the "opening group," at

\(^1\)Admiral commanding the F.M.E.O.
Opening group

- LCM Monitor
  (guide)
- 3 sections of mine sweepers
- 1 minesweeper (replacement)

Support

- LSIL
- LSSL
- LCT armed
- or 1 section of LCM Monitors

Transport ships/craft

- LCM
- or LCT
- or LSM
- 1 support ship in the center of the convoy

Command and support

- LSIL
- LSSL
  (force commander)

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1 When there is but one support ship, it takes the lead and is the command ship. When there are two support ships, the command ship is in the rear. When there are three support ships, the command ship is in the center.

2 Sometimes the transport craft are in two columns, lashed in pairs.

Fig. 17—Example of the river convoy (North Vietnam)
a distance depending upon the configuration of the river, but usually within two to three hundred meters, the main body moved in column following most carefully in the swept channel. The main body normally consisted of two elements as follows: Fire-support ships (LSSL or LSIL, heavily armed LCT, or sections of LCM Monitors), and transport ships or craft (LSM, LCT, LCM, or other types of cargo craft). When there was only one fire-support ship, it carried the force commander and took station in the lead of the main body. When there were two such ships, the command ship followed the main body except in the case of particularly difficult navigation, as at night. If there were three support ships, the command ship was in the center of the main body.

"The distance between ships or craft depended on the skill of the deck officers or coxswains; a distance of 50 m between large craft and 20 m between small craft was considered normal. In the case of large formations, and when the width of the swept channel permitted, it was oftentimes better to organize the main body into two parallel columns. This would not only reduce the length of the formation but would help ensure mutual support in the event of attack from both banks. The securing of cargo craft in pairs was found to be particularly desirable.

"At night, the ships and craft navigated under black-out conditions. However, flashing lights were occasionally used to help the craft keep station. Experience has proven that even during the darkest of nights or in the more difficult areas it was possible to move large groups in tight formations without serious difficulty provided the personnel were properly trained. Enemy reaction to our night movements was less frequent and less effective than that against our daytime movements; this was due in part to the fact that it was easier to spot their weapons at night because of their flashes." ¹

These diverse formations limited the effects of ambushes, but when intelligence reported the probability of an encounter, and

¹Admiral commanding the F.M.E.O.
particularly when the location of an enemy force was known, several additional measures could be taken. 1 "First, the organization of the convoy was carefully planned, arrangements were made to have an aircraft provide close reconnaissance for the column, and constant liaison was maintained with friendly artillery units within range. Secondly, the light escort companies of the Dinassauts 2 with additional reinforcing infantry elements, if available, were embarked so as to be ready to land in assault; all personnel manned battle stations in advance. Thirdly, once the convoy was underway, likely locations for enemy forces along the banks could be swept by fires from the support ships or by support aircraft on air alert when these were available (an infrequent situation)." 2

Regardless of whether one could take these supplementary precautions, or if the convoy was not alerted in advance, one reaction to the ambushes was always possible; this was to break through with speed and therefore lessen the critical period. To do this, it was necessary to "navigate with all lookouts manned, be prepared to react immediately by prompt movement to battle stations, and open heavy fires with all weapons until the passage was forced. This was the tactic called 'the ball of fire,' and most frequently was the best method to ensure the protection of the convoy. In these brief and violent engagements, prompt and energetic action is the essential ingredient. It is an illusion to look for techniques other than the tightening of the formation in order to permit mutual support and the heaviest volume of immediate fire." 2

This method was most often used when it was urgently necessary to send out reinforcements or supplies or when the separation of fire support ships did not permit prolonged combat. This was also the normal procedure in the course of offensive reconnaissance in an uncontrolled zone. "It had the major disadvantage of inflicting only

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1 This was the case on certain waterways in the Tonkin.
2 Admiral commanding the F.M.E.O.
moderate losses on the almost always carefully entrenched enemy. Moreover, it neutralized him more than it destroyed him, and it made it more difficult to cover the mine sweeping units. (Note that the enemy will most often seek to ambush the main body and will therefore not reveal his position prematurely by firing on the smaller craft of the opening group).  

On the other hand, when an ambush was anticipated, it was possible to prepare an assault landing. This maneuver could normally only be carried out on the flanks of the enemy position, and was "intended to encircle him, a hazardous undertaking when only few escort troops are available." In addition the Navy advocated the systematic destruction of enemy positions, by deliberate and adjusted fires called for by leading ships or craft which were stopped or beached. The landing of troops was carried out from the center of formation and under the cover of intense point-blank fire. The above method has the great advantage of breaking up an enemy ambush and of inflicting heavy losses of personnel and matériel. Applied with determination and fearlessness, it can end in a smashing success.  

It will also tend to discourage enemy attempts for a time, since these are more often repeated when our reactions lack vigor.

"Admittedly this presupposes the ability to attain fire superiority, at least locally, and to have craft which are capable of enduring in such combat. It can succeed with LSSL's as long as the enemy does not have conventional artillery of 105-mm or better. However, this method is very vulnerable to the massed fires of mortars. Finally, it involves long delays which are sometimes incompatible with the urgency of the mission involved. It could only be adopted unreservedly in the case where one possesses powerful armored gunboats in sufficient number. This was never realized. In addition, whatever the method adopted, artillery or air support should be used when at all possible, particularly during the break-through of an ambush".  

1Admiral commanding the F.M.E.O.
2Such was the encounter of March 27, 1954, at km 85 on the Red River.
This opinion was shared by an artillery officer as follows:
"During the period from January to June of 1954, the artillery staff of the Southern Zone at Nam Dinh furnished artillery liaison officers on numerous occasions aboard the escort boats of the Red River convoys. This system was highly valued by the Navy, who always sought to have shore-based artillery support for their convoys. However, experience revealed it was seldom possible to effectively use shore-based artillery for convoy protection."

ASSAULT LANDINGS

Assault landings (see Fig. 18) executed incident to the breaking out of ambushes as outlined above involved only limited forces and succeeded only in the temporary occupation of a narrow strip of terrain. Other landings were conducted as part of major ground operations. These involved the landing on a hostile river bank of forces most often equipped with heavy material: artillery, tanks, supplies, etc. Such operations were planned and conducted in accordance with our own desires and were different from the previously discussed landing operations, which were essentially counterattacks in response to enemy action. Although surprise was always sought in the case of preplanned assault landings, the landing could be preceded by a preparation delivered by shore-based artillery or air. The attack could be launched by day or night, but the more favorable hour was that which preceded the dawn. Finally, the landing point was chosen according to the configuration of the shore and the demands of ground maneuver.

On this basis, such operations were normally conducted as follows: "The convoy carrying troops (composed of LCT's or LSM's) was preceded at a distance of 1000 to 1500 m by a 'shock group' which navigated behind the opening group previously described. This 'shock group' consisted normally of two fire-support ships (LSSL or LSIL), one as

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1. This imposed a requirement to train for night navigation.
2. The normal landing front was generally from 150 to 200 m.
Shock-action Group Operations

Fig. 18—Assault landing (North Vietnam)
forward or rear guide and the other carrying the senior naval commander
and the troop commander. Behind the lead fire-support ship were three
to six armored LCM's which carried the assault companies of the first
wave, two to three LCM's being allocated to each company. This forma-
tion was accompanied by one or two sections of LCM Monitors. When
the whole group neared the selected landing site, the 'shock group'
shifted to maximum speed. The guide fire-support ship moved ahead
to a distance about twice that of the width of the landing front. In
this movement along the landing front, it fired at point-blank range
on the landing site, and then beached on the far flank.  

"The LCM's of the first wave proceeded in column behind the guide
ship, lowered ramps, and when abreast of the landing site, executed
individual turns and beached.  

2 The rear guide fire-support ship would take station to mark the near flank. During the landing of the
assault companies, carried out at maximum speed, the two fire-support
ships covered each flank by fire, while the LCM Monitors moved into
position above and below the landing site and patrolled off the bank
opposite to the landing. During the assault phase, the remainder of
the convoy maintained station 1500 m to the rear. As soon as the
assault companies had established a beachhead, the senior naval commander
directed the succeeding units to land. The LCT's then moved in to land
in the area marked by the two flanking fire-support ships. The land-
ing of the remaining troops and equipment was effected promptly, and
the transport boats were withdrawn immediately after. This method
always gave excellent results. Landings conducted at carefully
selected sites and enjoying some degree of surprise rarely encountered
determined opposition from an enemy who was more inclined towards using
ambush tactics than standing up to fight it out."  

Several such landing operations were often undertaken simultaneously
within a large area, and in Tonkin it was not uncommon to have ten

1 Admiral commanding the F.M.E.O.

2 Two to three LCM's were required per company, in order to allow
the troops all possible ease of movement at the time of landing. The
assault companies were either the organic light companies of the
Dinassaults or detachments provided by the landing force.
infantry battalions so engaged at one time. As soon as the landing force was ashore, the river craft were regrouped to provide supporting fires as prescribed in the plan jointly agreed between the naval and ground force commanders. Some craft would also be used for logistic support, and the larger ships were used as afloat command posts for the ground unit commanders.

**THE SECURITY OF ANCHORAGES**

The losses we sustained during the entire campaign show that attacks while at anchor were more dangerous than engagements when underway. This term "anchorage" pertains to all ships and craft when not underway, whether anchored off a river bank, beached, or tied up to a pier. It is, however, necessary to differentiate between temporary halts during movement, and periods spent in ports or river posts. In the latter case the enemy had the time to prepare his attack. This most often consisted of swimmers, drifting mines, artillery fire, or raids. Security in this case depends upon the use of relatively large forces in static defenses. Under these conditions one river bank is considered to be under our complete control, while the opposite bank is generally covered by friendly forces."¹

The answer to attacks by swimmers or floating mines² was the use of nets placed obliquely across and up-river from the anchorage. This had to be modified when tidal effect changed the current flow. A system of security watches was also a matter of constant concern. Other methods used were systematic firing on all floating objects, use of patrol craft, grenade attacks on unidentified objects or at irregular intervals, and the use of lights in the approaches to an anchorage.³

All of these techniques were useful but relatively inadequate, and in 1954 the captain commanding the South Indochina river forces

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¹Admiral commanding the F.M.E.O.

²It is to be noted that the Viet Minh never made use of fire-ships, which could have been very dangerous.

³The latter is conceivable only in a zone sufficiently controlled so as to reduce the risks of harassment by automatic weapons or by mortars.
deplored the fact that other measures against swimmers had not been studied, such as the use of special nonricocheting ammunition, underwater listening devices, and electric barriers as used by fishermen in some areas.  

Protection against artillery harassment is essentially a counterbattery problem. When this latter is ineffective, the security of the anchorage is compromised. It is in this way that in early 1954 harassing mortar fire rendered the river port of Sept Pagodes untenable, and the 1st Dinassaut had to be withdrawn first to Lin Khe and then to Hai-phong. Protection against raids is a security problem of constant concern in critical areas. The defensive organization of river posts to meet this threat must not be neglected, as was often the case.

In the case of temporary anchorages it is rare that the enemy has the time to prepare elaborate attacks. The use of swimmers or floating mines is generally less to be feared. The enemy most often depended upon harassment by automatic weapons and light artillery or mortars placed in position and sited prior to nightfall.

The defense cannot rely on static measures dependent upon obstacles. It must rely (other than on the normal security watches) on the ability to use massed fires. Moreover, anchorages should be shifted during the night to avoid enemy preplanned fires. The adjacent water areas should be patrolled by small craft. Particular care should be taken when these operate out of sight of one another to avoid individual craft being attacked and destroyed before they can be supported.

If one must remain beached in hostile territory it goes without saying that the beach front should be covered by a ground unit or at

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1. Possible in the brackish waters of the deltas.
2. Admiral commanding the F.M.E.O.
3. The use of portable nets to protect river craft was tried in 1952 by the 1st Dinassaut. It was finally abandoned for temporary anchorages since it made it difficult for the boats to get underway quickly.
least by outposts. But such a situation is always hazardous at night, and an anchorage in the middle of the river is generally preferable. In this case there is no need to maintain friendly elements on the banks, which often gives only an illusory sense of security. These friendly elements impede fields of fire, lend themselves to confusion, and in the event a quick departure is required, impose added delay because of the need to be reembarked.¹

Despite occasional success the enemy did not fully exploit the possibilities of attacking our ships at anchor, and in particular never used his medium caliber artillery, whose effect on our craft would have been deadly. It should be borne in mind that an enemy who was better informed on the characteristics and capabilities of our various ships and craft, and who enjoyed resources comparable to those that the Viet Minh possessed at the end of the war, would be able to prevent us from anchoring outside of zones strongly held by ground forces.

AMPHIBIOUS OPERATIONS ALONG THE COAST

Operations along Viet Minh controlled coastal zones or along the 2400 km of the Indochina coast were rare. They were limited until 1952 to raids and actions by seagoing surveillance ships using their own personnel to land and destroy such installations as were readily accessible. Nevertheless, information on the techniques required had been available since April 1951.²

"In Vietnam and Cambodia, large areas along the coast are virtually inaccessible by land routes, and amphibious operations are required to effect a surprise occupation of a region, or to raid rebel installations. Those coastal operations which involve the movement and landing of a force by surprise or assault can be carried out with or without the Navy. If the operation is large, involving major forces or requiring fast ships, it is necessary to call upon the Navy, which

¹Admiral commanding the F.M.E.O.
²Lieutenant Colonel X, "Amphibious Operations in Indochina."
will utilize either its large landing ships (LCT, LCI or LST) or corvettes and minesweepers.

"Seldom will we be able to land directly from transport ships because of the existence of shoals or rocks. Personnel and material must frequently be transferred from larger ships to landing craft. This transfer may be to junks or sampans that the mother ship has towed; to regular shipboard boats, motor launches, and dinghies; to Engineer Corps boats carried aboard the ships; or finally, in major operations, to special landing craft. Such transfer operations are difficult in rough seas, and some of our troops display a natural clumsiness and fear which tends to cause accidents.

"If the operation does not require the Navy, the movement is accomplished in local sector craft or native boats.\(^1\) The troops embarked in this case are few, and are usually infantry elements. The required orders are issued before departure, and each individual group has its mission designated for the landing, i.e., movement inland, fire support, etc. . . .

"Finally, numerous minor amphibious operations were conducted incident to naval coastal surveillance functions. These included control of shipping, intercepting rebel forces moving by sea, apprehension of arms smugglers, and search of islands, landings of opportunity on areas of the coast inaccessible by overland routes, and the organization of ambushes to cut the retreat of Viet Minh bands being pursued. Such actions were generally conducted by naval commandos or ships' detachments, occasionally reinforced by ground units, and were controlled by the naval commander responsible for the sector of surveillance involved."

The frequency of these raids and their importance tended to grow as the potential of the Viet Minh grew, particularly where the coastal

\(^1\)Army troops generally lacked amphibious training. The problem was not one of making assault landings against defended positions but of landing over beaches that were undefended (although often mined), regrouping, and then continuing on (Captain X, commanding Far East naval division).
areas offered more lucrative targets. However, the enemy coastal traffic diminished, and we had to look for cargo and junks inland.

"The general lesson to be derived from these operations (aside from the changes in organization required to meet improved coastal defenses) is that the 'punch' tactic (the classic tactic of commando units) is always more effective than encirclement in which the net in most cases encloses an innocent population who are often the only ones to suffer from the operation."¹

From 1952 on more important operations were undertaken, although with inadequate naval resources. Despite increased lift capabilities, the problem of the actual landing was still difficult. The LST's normally could not beach in the assault wave, and in any event suitable beaching areas for this type of ship were scarce. It was necessary therefore to use small craft such as the LCM's and LCVP's, and these had to be transported to the landing areas. Unfortunately the LSD Foudre, the only ship suited to this task, was not available until July 1953.² Our amphibious operations during the last two years of the war were therefore limited. Most often they involved a landing on an undefended or slightly defended coast, usually in conjunction with a ground operation. This last significantly increased the difficulties. None of these operations was a failure, but neither was any really satisfactory in relation to organization or execution.

In 1952 the admiral commanding the naval division of the Far East had pointed out³ that the landings were basically a deployment of units moved by LST and that H-hour defined as the time the last element landed was neither logical nor official doctrine. He argued that this definition inhibited rapid movement inland, made it difficult to attain surprise, and should be changed to the usual arrangement whereby H-hour was the time of landing of the first wave.

¹Captain commanding the Far East naval division.
²Up until then we could transport only small craft on aviation tenders or an occasional ship.
³In the course of the year 1953 Operations QUADRILLE-CABESTAN-CAIMAN had been carried out.
The Commander in Chief, in January 1953, set forth how amphibious operations should be conducted in the following terms: "A combined operation requires the closest coordination between the three services; this must be continued throughout the planning, preparation, and execution phases of the operation. Planning should be conducted by the overall commander of the operation in conjunction with qualified representatives from the Navy and Air Force as well as those from airborne troops if a parachute operation is involved.

"Adjustments in plans should be made as required to relate operations ashore to the technical capabilities of the other services. The size of the landing force, the timing of the amphibious phase, and the selection of landing sites can only be determined after agreement by the Navy, taking into account the means at its disposal (number and type of ships and craft) and the meteorologic and hydrographic conditions. The timing of the operation and its amphibious phase must be carefully coordinated, particularly under variable weather conditions. It is also necessary to plan on an overland withdrawal of forces if weather conditions do not permit their reembarkation. In addition, it is necessary to anticipate possible enemy action against the troops and small craft at the time of the landing. The amphibious phase should not be regarded as a simple transportation operation."

This directive was not, however, faithfully applied, and during the years 1953 and 1954 there continued to be errors of planning and coordination. In the realm of execution the deficiencies were due to the lack of training as well as to the type of craft used, the crews of certain ships and craft having received no training in landing operations.

"The LCT's and LCM's available had been modified as river craft, which diminished their seaworthiness, reduced their cargo capacity, and hindered transfers. They were therefore no longer suited for their primary mission of landing from the sea. The LCVP's were insufficient in number to allow the rapid and simultaneous unloading of three LST's, which in any case often did not carry enough nets for troop use."
"The principal obstacle to the rapid execution of the landings was the lack of trained troops capable of coming down the nets with their equipment. Ships' ramps, when in use, were reserved for unloading vehicles."\(^1\) Eventually there was created an amphibious training center at Cam Ranh in December 1953, where an RLT and an amphibious group were trained for the assault phase of Operation ATLANTE. A landing at Qui Nhon organized to assault a regular Viet Minh regiment supported by regional formations met an undefended coast. Nevertheless, the improved competence of units trained at Cam Ranh proved the value of that center.\(^2\)

Hostilities ended before the major amphibious operations planned for 1954 could be carried out.\(^3\) This makes it easy to understand the views contained in a report on the overall conduct of the naval war in Indochina: "It is to be regretted that little consideration was given, in the development of the broad operational plans, to the fact that we controlled the sea and that this gave us ready access to coastal areas, particularly from April to August.\(^2\) (assuming of course that the training of personnel for such operations had been accomplished).

This view (that we might have had more frequent recourse to amphibious operations) presupposes that we had enough personnel to carry on the war on land in a number of separate regions, and to open a new operational sector from the sea. Unfortunately, this just was not the case, and it proved fruitless to think that we would be able to fix and destroy major Viet Minh forces by amphibious operations.

\(^1\) Commander in Chief.
\(^2\) Captain commanding the Far East naval division.
\(^3\) These were aimed at extending Operation ATLANTE by a series of similar offensives.

Translator's Note

The term Dinassaut is a contraction of Division Navale d'Assaut and refers to the basic French Navy river craft organization. It corresponds to the Vietnamese Navy's River Assault Groups (RAC's) in use today.
FOURTH PART

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ADAPTATION OF THE ARMS AND SERVICES

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There is a continuing need to modify the tactics and techniques of combat, as well as the organization of units, in accordance with the dictates of existing circumstances. This was repeatedly emphasized during our operations in Indochina where our units, organized for warfare in Europe, proved to be ill-suited to the task of carrying on a struggle against rebel forces in an Asiatic theater of operations.

The imperatives of terrain were reaffirmed, particularly as these related to the scarcity of roads, and to the vast expenses of difficult country (heavy brush, jungle, rice fields, etc.). These factors were further aggravated by a debilitating climate which added to the difficulties of movement. Even within the infantry, which is a relatively simple arm, company commanders would report, "We are far too heavy, we lack mobility, and we are badly adapted to the terrain."\(^1\)

The wide range of enemy activities, which could include assassination attempts by individuals to full-scale battles at regimental or even division level, required that we organize our forces to satisfy a multiplicity of purposes. Despite this, we often found ourselves using formations which were unsuited to the tasks at hand, finding an enemy whom we could not fix, or destroying an enemy who would not yield. A company commander returning from a sweep against guerrillas exemplified this problem by reporting, "One cannot go out to catch butterflies with bear traps."

Political considerations often limited our freedom of action. It was necessary, particularly in certain regions, to avoid the destruction of civilian resources and local populations. This constraint forced us to deny to our units those supporting fires which were most effective but also the most destructive.

Under these conditions, the adaptation of forces to circumstances was difficult to achieve, and each arm arrived at different results. The infantry, for example, often had to do without the support of tanks.

\(^1\)Captain..., company commander.
or artillery, all the while lamenting the fact that its actions
"frequently came to nothing against an enemy who simply disappeared."¹
In many other cases, artillery "could neither find a target nor obtain
information of the enemy it could use."² Tanks always had great diffi-
culties in moving. Logistic support was slow, usually inadequate, and
often uncertain in many circumstances.

We created new units or formed task forces to respond to the re-
quirements of this type of warfare, but these modifications proved
inadequate. Here are some examples:

  o The units within the Expeditionary Corps in 1945 were exces-
sively heavy and difficult to maneuver (9th Colonial Infantry Division,
  Armored Division...). They had to be quickly fragmented, and eventu-
  ally they were disbanded.

  o The mobile groups organized for operations in the deltas were
  unsuited for operations in the plateaux and mountains (1953-1954).

  o The infantry battalions of the "Far East" type created for
  operations in rice cultivation areas were seriously handicapped when
  operating in heavy brush. When they were used to defend military
  posts or a base area, their effectiveness was minimal.

  o Heavy vehicles and armor in particular were not suited to
  operations in Indochina.

  o Administrative procedures were too often geared to peacetime
  conditions, etc.

  Such were the comments which appeared time and again in many
  reports.

We should nevertheless make reference to certain organizational
concepts which proved successful. These included: amphibious groups
and the Dinassaut, mobile groups for all types of combat in the deltas,
indigenous commandos, task forces organized as required,³ and light

¹Major ..., battalion commander.
²Major ..., commanding an artillery battalion within a mobile
group.
³For example, Task Force Vaudrey in central Laos in 1954.
Vietnamese infantry battalions (TDKQ) who were good in principle, but were not always properly used, or adequately trained.

In short, whether with joint forces or in the various organizations within a single service, many things were tried, and a whole series of modifications was undertaken. One may therefore, in the light of experience gained over a period of several years, offer here a preliminary assessment.
XVI. THE MANNING OF UNITS AND MAINTENANCE OF PERSONNEL LEVELS

One of the major characteristics of the Indochina War was the continuing drain upon unit strengths, despite a system of individual replacements. Replacements could never compensate for the constant attrition suffered by all forces, regardless of service, because of the harassing nature of operations, the lack of any respite, and a perpetual shortage of personnel. The infantry suffered from these ills more than anyone else and many companies resembled the one described by a lieutenant in the spring of 1954: "My company has no captain; it is commanded by a young lieutenant. He has only one other officer instead of two. The first sergeant lies wounded in the hospital; only one platoon leader, a staff NCO, has passed his qualifying exams. We have all our NCO's and the sergeants are generally good, some even excellent. We are at authorized strength (175), but when we take to the field, the lieutenant can scarcely muster 100 men for the following reasons: (1) five percent of the personnel man the company rear (pay clerks, etc.); (2) five to ten percent are in a peculiar category for Indochina; these are individuals classed as unsuited for infantry duty or field operations because of a variety of physical inadequacies which require the company commander to assign them to light duty; and (3) 20-30 percent are absent: hospitalized, convalescent (20 percent), attending schools, on leave, etc."

This company had been part of an infantry battalion within a mobile group for four years. The mobile group had ten days rest in April 1953 after nine months of marches, countermarches, and endless combat. The personnel shortages (25) were made up by men who were not familiar with weapons in current service, and who had never fired at night or thrown a grenade. However, this is normal, and worries only the lieutenant who recently arrived and who has yet to get accustomed to this sort of thing. Within the memory of one of the NCO's, who is on his third overseas tour, "the battalion has never had the chance to carry out any training; our company is just about on its knees."
There is no question that this sort of situation can be found in many infantry units of any army at the end of a war. This is because a war, even a victorious one, is carried on by a handful of veterans with a mix of people drawn from staging units, and by recruits who may have received little indoctrination. Unfortunately, this situation prevailed in our infantry from the very beginning, when the units that arrived with Marshal Leclerc began to follow the prescribed replacement system. It is therefore important to analyze these critical difficulties which extended over a period of six to seven years. The comments which follow are equally applicable to other arms and services with the exception of some minor details.

SHORTAGES OF PERSONNEL AND CADRES

No one in Indochina questioned the need to build up large stocks of rations, munitions, and spare parts, and these eventually grew into reserves for four to six months. However, nothing comparable was done to provide for the replacement of casualties or to permit the relief of units that had reached the limit of endurance. The authorities in France always computed personnel strengths of the Expeditionary Corps below actual requirements. They were, moreover, most reluctant to agree to any increases above the modest allowances they had prescribed. As a result, a succession of Commanders in Chief was faced with the same dilemma: either they could organize a suitable pool of personnel and accept their inability to organize the new battalions, batteries, and squadrons required to keep pace with the increase of Viet Minh units, or they could use their resources to continue the struggle against an ever increasing number of new enemy units without being able to constitute any reserve of personnel. The requirements imposed by their mission forced them to pursue the latter alternative throughout the course of eight years of war.

Time and again it was necessary to await the arrival of a ship to be able to reorganize a battalion that had suffered heavy casualties, or to respond to desperate demands from territorial or service commanders. At the time of Dien Bien Phu, for example, only a few hundred Legionnaires and 200-300 North Africans could be made available
as reinforcements, thanks to the efforts of the personnel staff sections. The required replacements were in France, and these were administered in accordance with the attitudes of the home front rather than in response to the needs in Indochina.

It is essential here to emphasize a lesson that should have been obvious. A campaign overseas requires a greater reserve of men and cadres than does a war in Europe. This reserve has to be deployed and kept up to strength in several overseas depots where the individuals can complete their training and become acclimated to the country. It is considered that such a reserve, whose absence caused all of the ills from which our units suffered, should comprise about 10 percent of the overall strength of an expeditionary corps.

Inasmuch as peacetime administrative procedures were used and regimental headquarters were seldom organized, each battalion or comparable unit had to regularly leave a rear echelon of about 10 percent of its personnel to satisfy the usual rear area activities and absorb the convalescents or others incapable of taking to the field. The remaining personnel were continually being reduced as losses were incurred, because replacements were not normally made available until the combat effectiveness dropped below two-thirds of authorized strength.

The situation of the cadres was no better. In the infantry at the beginning of the last year of the war, fully half of the junior officers and NCO's were on their second tour and showed the effects of a prolonged physical and morale fatigue. In addition, one-third of the infantry cadres were not well suited for their tasks because they were either reservists or were detached from other branches, or because they were too old to command small units in combat. Aside from their physical inadequacy, these officers and NCO's had serious deficiencies in their knowledge of tactics as many reports indicated: "It appears unnecessary to emphasize the importance of ensuring that infantry unit commanders be well trained and physically fit. A special training program should be established whereby officers who are to command infantry in combat (captains, majors, and colonels) receive training and instruction in current combat tactics and techniques."
In contrast, the younger officers who were detached from other branches, were able, in the great majority of cases, to adapt themselves quickly to the harsh realities of infantry combat. "After a few months in the paddies these substitute infantry officers in my battalion became regular infantrymen. Their pride in their own branches of the service had stimulated them to prove they could be equally good infantrymen; in this they were eminently successful." The Inspector General of Armor considered that the cadres drawn from his branch for service with the infantry had gained through such an experience, but he considered that "such detachments should be made only for periods of about 12 months."

In summary, none of these comments is new. Whether in an overseas area or on the battlefields of Europe, infantry suffers an attrition of personnel, and particularly of its cadres, which is far greater than for other branches. It is thus necessary for it to receive its full complement of replacements at regular intervals. It is also essential that one or two replacements for each platoon leader and company commander be undergoing their indoctrination in a training center.

**Inadequacies in Training**

Many of the units included, during the last years of the war, an appreciable percentage of veterans who were on their second tour. However, the greatest number were Legionnaires or riflemen with a few months of service and limited training. All officers continually referred to the disastrous effects arising from this lack of training. An infantry colonel who knew his branch well wrote, "... many small engagements would have turned out better if only the riflemen had been properly trained.... The three usual deficiencies of French infantry were encountered again...lack of physical fitness, inadequate indoctrination, and inability to use weapons effectively in combat...indoctrination must include some familiarity with the sounds of combat."

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1 Major X, commanding an infantry battalion in North Vietnam.
hence exercises with live ammunition are required...training in close combat is also needed to develop self confidence in the individual soldier."

Major X insisted upon night firing exercises: "In this Indochina war one must know how to identify and hit targets at night at short range. None of my troops had ever done such firing in France. This deficiency becomes even more difficult to understand when one cannot deny that even in Europe an enemy may attack our strong points using the same techniques which proved themselves so effective for the Viet Minh here."

The progressive loss in efficiency by the infantry gave rise to the same phenomena that had appeared in other wars under similar circumstances. There was a decrease in maneuverability, and an increased dependence upon artillery or air support to handle situations which could have just as easily responded to small unit tactics and fires of organic weapons. The consumption of increased quantities of munitions attests to this growing reliance on the bomb and the shell. In a three month period in 1952 the artillery in Tonkin expended 4,800 tons of munitions. By 1954, this expenditure had increased to 8,900 tons, while the number of guns had not increased in equal proportion. It was the same in Central Vietnam where expenditures went from 1,200 tons in 1952 to 2,200 tons in 1954.

At the same time the infantry used ever increasing numbers of mortar shells and grenades:

- In Tonkin, 850 tons were used for a three month period in 1952\(^1\) and 1,980 tons for a similar period in 1954 where the troop strength had not doubled.

- In Central Vietnam, 310 tons were used for a three month period in 1952 and 1,547 tons for the same period in 1954.

These statistics do not have an absolute value because they do not reflect a variety of factors which could influence them. Nevertheless, they do indicate a definite trend: we were firing more and more without obtaining a proportional increase in the results attained.

\(^1\)The period involved was May-June-July. This was a time of average activity since major operations normally were conducted during the six winter months.
Among the other branches the problem was the training of specialists, particularly in signal communications. This training had to be provided overseas. "Thus a young soldier would arrive and spend five months in a signal communications school before being assigned to a unit; this five months out of his overseas tour provided no return either financially or militarily."1

Despite the urgent needs of the units, it became necessary to organize a number of schools to provide the training which the troops arriving in Indochina lacked. It was evident that the expansion of the Expeditionary Corps was being achieved to the detriment of the quality of the personnel, and nothing could be expected from France on that score. Indeed, the training centers in France and Africa did not contribute much, either because too few soldiers and NCO's passed through them, or because the courses given were too short, or because their organization was somehow inadequate. Thus, more and more specialists and lower grade NCO's had to be trained overseas, even if only to provide the better soldiers with the instruction required for their promotion.

On the whole, the essential requirements of all branches were met, except for the infantry. The following training was provided during the year 1953: 20 percent of the communications personnel, 19 percent of the parachutists, 14 percent of the artillery personnel, 12 percent of the engineers, 9 percent of the armored forces personnel, 7 percent of the supply personnel, and 6 percent of the infantry, which unfortunately included drivers and communicators.

A report prepared during this period includes the following: "With the exception of the training to qualify as platoon leader (which few of the eligible candidates sought) provided at the territorial echelon and by the NCO schools of the Foreign Legion, no formal training for infantry unit leaders was undertaken in Tonkin. In the other areas, where units have greater stability, training was accomplished under somewhat more favorable conditions, but even these could be improved."

1Captain Y, company commander.
The individual battalions lacked the personnel to run NCO schools. On the contrary, the Legion, which had retained the regimental echelon, could do this, and this became one of the main reasons why, beginning in 1953, the formally organized mobile group built around a regiment of infantry began to appear. "Nothing could be done however for the rifleman/grenadier, who was the most prized and rarest specialist in the infantry and who took the longest time to train," ¹ "Every battalion commander regretted his inability to carry out the prescribed training incident to combat operations. However, he seldom had either the time or the facilities to do this, even though the battalion would have gained much thereby."²

Many infantry officers recommended the establishment of "a training center for each branch wherein units and individuals upon first arriving in Indochina would receive a general orientation on the country and on guerrilla warfare. Such centers could also serve to provide an annual refresher training period, which was badly needed."³ In the last months of the war, the Commander in Chief did succeed in setting up four such training centers to provide refresher training for organized units. Each of these centers was intended to provide facilities for a mobile group beginning in the spring of 1954.

By the end of the war a considerable change in attitudes had taken place. After having loudly deplored the ever increasing inadequacies in the training of troops and cadres, and at the same time announcing with equal vigor that "one could not fight and train at the same time," many senior officers admitted the desirability of reverting to practices which had been used in other wars, i.e., the establishment of training camps immediately behind the combat zones. The requirement for instructors and facilities for this purpose was not excessive since in 1954 only one four-hundredth of the total personnel

¹Battalion commander, Tonkin.
²Battalion commander, Central Vietnam.
³Lieutenant, deputy to the commander of a mobile group.
in the Expeditionary Corps was involved in instructional activities, and one two-hundredth at the maximum would have sufficed to provide the added training required.

MEDICAL EVACUATIONS AND SUPPLY

While the Expeditionary Corps may have suffered from a chronic shortage of personnel, it did nevertheless obtain a high return of sick and wounded, thanks to the efforts of the Medical Corps. An excellent system of hospitalization was quickly established. This was characterized by the concentration of specialized hospital facilities in Saigon and the organization of convalescent centers on the coast and at Dalat. Later, evacuations were expedited considerably by the use of aircraft; unfortunately, the late appearance of the helicopter meant that for much of the war it was difficult to get a man from the place where he was wounded to an aid station. Despite this, however, the recovery of wounded men was highly satisfactory.

Of the 45,000 members of the French Union who were wounded between 1946 and the end of the war, only 15,000 were evacuated to France. The remainder recovered and returned to their units. The treatment of disease is discussed in detail in a separate chapter. However, note should be taken of the tremendous strides which had been made in comparison to colonial expeditions undertaken before 1939.

From the beginning of the war until about 1948, the Expeditionary Corps suffered from poor, and at times inadequate, supplies and equipment. Such problems were eventually resolved thanks to the efforts made by France, the United States, and by our own services, to which Lieutenant X pays tribute in these terms: "Despite the obvious difficulties, my company had fresh food much of the time and on occasion we even had ice; in general, clothing and individual equipment was satisfactory. The services certainly did their very best to help us endure the hardships of the campaign."

Personnel strengths of friendly and Viet Minh forces are shown in Figs. 19 and 20.
French strength did not vary substantially:
maximum 63,636 in 1947
minimum 45,338 in 1949

Fig. 19—Personnel strengths, friendly forces
"Why worry about the strength of the Viet Minh when he has on his side his political organization, his village militia and the active or passive support of all the people..."

Lt. Col. C.

Fig. 20—Personnel strengths, Viet Minh forces
In Indochina, the mobile group was an adaptation of the combat command concept. One should note that the mobile group was not always the basic tactical unit. In staff planning, the evaluation of force requirements was frequently based upon the infantry battalion and the two units were therefore often considered at the same time. In any event, the mobile groups were not organized until 1951, they were not permanently deployed in all areas, and finally and most important, they utilized only about one-third of the infantry units while the other two-thirds formed the mobile or fixed battalions. At the beginning of the campaign, the divisional formations arriving from France, the 9th and 3rd Colonial Infantry Divisions and the 2nd Armored Division, were too large and heavy. The divisions were quickly broken up, followed by the regiments. The basic tactical units became the infantry battalions, artillery battalions, and other units of similar size. Only the Foreign Legion regiments were retained, and even then their battalions were most often used independently.

Although the Viet Minh at that time had not yet organized any large formations, it was nevertheless necessary for us to have forces of combined arms available since, while certain operations could be conducted by independent battalions, others required much more powerful means.

From 1946 to 1950 the concept which had been used in Morocco was applied; this was the mobile column, bearing the name of its commander. Thus for each operation a commander was designated, a staff was assembled, and forces were allotted in accordance with the mission assigned.  

From 1950 on, as a result of the organization and continuing expansion of a Viet Minh battle force (two divisions created in 1950, three others at the beginning of 1951), and the nature of the operations when battalions passed from one command on to another with increasing

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1 This concept still had its supporters at the end of the war in Indochina.
frequency as lines of communications became fewer and fewer, the old European organizational concept was abandoned and permanent combined arms formations were adopted; these were the mobile groups.

One of these already existed in the North African mobile group. Four others were created by Marshal de Lattre shortly after his arrival in Indochina in order to counter the grave threat to the Tonkinese delta. These were further increased, and their maximum was reached in 1951: 11 mobile groups composed of French Union troops, and 7 Vietnamese mobile groups.

However, in order to meet the ever more powerful Viet Minh formations, it was necessary to return to the divisional concept, beginning in 1954, by uniting several mobile groups into light divisions. Thus, the divisional formation, which was characteristic of the opening phases of the Indochina War, reappeared. However, this development was too long delayed when considering the growth of the Viet Minh main battle forces.

**ORGANIZATION OF THE MOBILE GROUP**

The mobile group differed from the European tactical group as follows: It had a larger headquarters, its infantry was specially organized, and it had an organic artillery battalion rather than one in support.

The headquarters of the mobile group included a small staff, a communications detachment with ample equipment to permit the control of major reinforcements, and a headquarters and service company which included a security detachment for the command post.

Because the commander could take direct action without being encumbered by a large staff, because adequate electronic communications were available, because the headquarters and service company and artillery battalion were motorized, and because varying numbers of reinforcing units could be effectively controlled, "the mobile group could, in case of a crisis, rapidly become a very powerful formation capable of handling a serious situation. Such a situation would be
one where regular enemy troops could take advantage of a field of action prepared by provincial and regional elements with the help of numerous sympathizers.

Most often its infantry included three battalions of different origins: the Legion, North Africans, Africans or Vietnamese. These battalions had partially motorized service elements. An artillery battalion was an organic part of the mobile group. It was entirely motorized and included three gun batteries each with four 105-mm howitzers. In certain mobile groups this battalion was replaced by a heavy mortar company because of the shortage of artillery and artillersy. The mobile group was often provided with considerable reinforcements for a particular operation: infantry battalions, armored or amphibious vehicle units, commandos, engineers, etc.

The mobile group did not have service and supply units (except for a limited medical capability in the headquarters and service company), for it was initially designed to operate within an area which included territorial service facilities. It therefore was supported by these, or in some cases (ATLANTE Operation, for example) by some base of operation especially organized for the purpose. This basic organization derived from the experience gained in combat in the delta was generally accepted. However, its infantry structure has been much commented upon. In the opinion of some, the different origins of the battalions contributed to their effectiveness, for "the mixing of different units allowed us to draw upon the best qualities of troops with varied backgrounds." These supporters of the heterogeneous mobile groups maintain that "the mixed battalions produced excellent results (each tried to outdo the other and the different character of each battalion permitted the commander to use the one whose peculiar qualities were best suited to a given task.)"

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1 Colonel commanding a mobile group.
2 Battalion leader X, commanding a battalion.
3 Lieutenant Colonel F, commanding a mobile group.
This diversity was no doubt necessary at the time when operations were conducted at the mobile group echelon. It was hardly justified, however, from the moment when several mobile groups operated together (as task forces or light divisions). Thus by the end of the war in Indochina, there was a tendency to group battalions of the same race into one regiment to provide the infantry force of the mobile group. This development had its strong supporters: "On the tactical level search and destroy operations against enemy units or bases by isolated mobile groups composed of several battalions from different corps has become outmoded: there is always some advantage in that the mobile groups may be homogeneous." ¹

"From the morale standpoint, the organization of the heterogeneous mobile groups has been a failure. Everyone likes to serve under the orders of a colonel who is from the same corps and who can therefore be looked upon as being concerned for his units in all ways and not only in the matter of tactics." ²

"Mixing of races must be avoided. The homogeneous three battalion mobile group under the orders of its colonel is clearly preferable to the mixed battalion force for three main reasons: better esprit de corps in battle, closer identity of attitudes, and simplified management of personnel and assignment of replacements, promotions, and awards. At the same time, a fourth battalion of Vietnamese integrated within the mobile group can give excellent results." ³

The fact that "the infantry wants its own colonels" is mentioned in several reports. This emphasizes the fact that infantry battalions are more effectively deployed and better commanded in combat by an infantryman than by officers of the other arms. Only an infantryman can "understand" the needs and hardships of his men.

¹ Colonel B, commanding a mobile group.
² Lieutenant X, assistant commander of a company.
³ Captain X, staff of a mobile group.
EFFECTIVENESS OF THE MOBILE GROUPS

The effectiveness of the single independent mobile group varied in accordance with the strength of the enemy, and thus changed over the years. As long as the Viet Minh forces were committed in small units with infrequent artillery support and inadequate supplies, the mobile groups were excellent.

The worst that could be said against the group then was that it was too heavy for some counterguerrilla activities, or when the only opponents it encountered were regional or provincial elements interspersed among the peoples in the rice lands. "The mobile group working alone in an area occupied by territorial forces is either too large, considering what it may expect to accomplish if the enemy disperses and slips away, or too small if the enemy decides to meet it in battle. In brief, the mobile group alone is a force that is rather easily influenced by the enemy."\(^1\)

Starting in 1953, the independent mobile group was no longer effective in the delta. It then became necessary to organize small light divisions around three mobile groups to provide them with the means to ensure their own security and to conduct the concentric maneuvers required to deny the enemy the possibility of dispersing.

The effectiveness of the mobile group also depended upon the terrain. "My mobile group's organization was completely satisfactory for all operations in the delta. But when we unexpectedly moved to Laos, the organization had to be modified several times to meet unforeseen circumstances."\(^2\)

"The mobile group organization, in my opinion, is suited neither to the terrain or the enemy we encountered on the plateaux.\(^3\) The mobile group could only exploit its full potential in areas with an adequate road network. "It seems that the mobile group was primarily intended to operate in the proximity of a road network. The hundred and twenty

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\(^1\) Colonel N, zone commander.
\(^2\) Colonel Q, mobile group commander.
\(^3\) Colonel M, mobile group commander.
odd vehicles that it had normally, plus the added transport used by reinforcing units and their material, which always seemed to be increasing, served to tie the mobile group to roads.... Unfortunately in the Indochinese theatre of operations, communications axes were generally few and poor, were of limited capacity, and did not permit two-way traffic. Moreover their approaches were such that, except in rare open areas, it was difficult to deploy. Thus in many stretches, they included many well known death traps."

In the areas with few roads (plateaux, central Laos), the motor transport of the mobile groups created many difficulties. "The roads formed the periphery of areas which progressively passed under control of the Viet Minh. The latter organized a veritable network of hidden supply points which were linked together and permitted him to maneuver from a central position against our ground elements who were tied to the roads and the communications centers, and had ever decreasing capabilities of extending further afield.

"...The mobile groups required two battalions to provide a limited security in the immediate vicinity of the road, and they had nothing left to flank the ambushes, in short to maneuver."¹

"In addition, the battalions could not go more than 10 km away from the road without getting out of range of their artillery support. On the Viet Minh side, all he had to do was keep beyond 10 km from the mobile group's axis of advance in order to be invulnerable, unless our infantry chose to engage him without any support."²

Even in the areas where the road network was satisfactory, other problems arose. A colonel commanding a mobile group summed these up as follows:

- "The headquarters and service company and the communications section were undeniably heavy, and it was difficult to provide them with adequate security. In practice, there was generally

¹Colonel M, mobile group commander.
²Lieutenant S, company commander.
organized an advanced command post with limited personnel (including, as necessary, man-pack radios) and as free as possible of concern with the rear, and a rear command post which included all items not required forward, and which consequently was very heavy. The security section as authorized in the Tables of Organization was unable to provide security for the whole headquarters and was in fact barely adequate to provide security for the forward command post."

- "As for the rear command post, it had to provide for its own security by moving into a post or into the immediate vicinity of a territorial formation. This was a real handicap as far as the mobile group's mobility was concerned."

- "Lack of armored vehicles for reconnaissance and security."

- "Lack of infantry, due to the normal assignment of a battalion to protect the artillery and to satisfy a variety of other security tasks (convoys, route guards, etc.). This meant that in most cases, only two battalions were available and hence no maneuvering was then possible."

- "Lack of means of transport."

This last point is debatable because the infantry battalions were one-third motorized, and the artillery and the headquarters and service company were 100 percent motorized. Nevertheless, three rotations were required to transport a nonreinforced mobile group. The difficulty was that the inadequacy of road networks and the necessity to protect all convoys often made it impossible to assign additional vehicles. Moreover, to effectively utilize the transport that was available it was necessary to centralize its control. In short, the mobile group, considering its inadequacies, proved to be "relatively well suited to operations in delta zones or open areas where the road network was sufficiently dense and serviceable, and where a territorial infrastructure existed to provide the fixed fortified positions."¹

¹Colonel X, mobile group commander.
On the other hand, the mobile group proved "to be relatively useless and highly vulnerable in all covered and broken terrain areas. Motor transport in such areas was a disadvantage." 1

Two solutions can thus be envisaged:

- Only one type of mobile group capable of being reinforced or lightened according to the situation.

- Two types of mobile groups, one intended to operate away from roads, the other for regions with roads.

These two solutions have their supporters: "The mobile group," says a mobile group staff captain, "must be capable of operating either as a powerful force of combined arms, or as an infantry formation consisting of only one mobile command post with portable radio facilities, and three to four reduced battalions; such a force would move on foot alone beyond range of supporting artillery to seek an infantry battle." 2

A colonel who commanded a mobile group added, "The mobile group must, in rough terrain where movement is difficult:

- Do without its organic artillery, and place it in general reserve.

- Utilize only the infantry which has been lightened but which retains the full range of its organic weapons.

- Have available a service support element constituted of porters and pack animals.

- Be provided with adequate close air support.

- Have light native units to use as scouts." 3

On the other hand, others felt that it was necessary to have two types of combat units: "For areas where motor transport can be used,

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1. Major X, mobile group chief of staff.

2. Captain L, mobile group staff.

3. Captain L, general staff.
reinforced mobile groups (4 infantry battalions, 1 artillery battalion, 1 company of armor, and 1 engineer company) and armored task forces (1 tank company and 1 infantry battalion); for forest zones or areas of rough terrain, formations totally independent of roads (mobile group of the jungle or mountain type) which could include: a headquarters, four infantry battalions and one or two 75-mm recoilless rifle companies.\(^1\) All equipment and weapons would be man-transportable. Additional fire support and the required logistic support would be provided by a decentralized air support organization. Resupply would be by parachute, and all evacuations and other rearward movements would be by helicopter or, when the terrain permitted, by fixed wing aircraft.\(^2,3,4\)

For an illustration of communications within the mobile group, see Fig. 21.

\(^1\) Colonel C, mobile group commander.

\(^2\) The use of 75-mm recoilless rifles in rough terrain is, however, subject to controversy. In fact, the problem of fire support in such regions has not been resolved satisfactorily yet.

\(^3\) Colonel B, former mobile group and zone commander.

\(^4\) The commander of naval forces in the Far East believes that river transportable forces should be organized and suggests (in case the principle of the "joint combined group" is considered) that the best thing would be to include in it a tactical group of three Foreign Legion battalions and one amphibious vehicle battalion.
Fig. 21—Communications within the mobile group
"One of the lessons of the war in Indochina, and one of its principal lessons," writes Colonel X, zone commander, "is that the infantry, in this war without front, has an almost unique importance. More than ever, it is the infantry that bears the brunt of battle."

It is not possible to deal with the use of the infantry here as will be done for the other branches; this would mean covering all aspects of tactics. Thus we will consider only the essential character and organization of the infantry.

The three elements that make up a good infantry were once again confirmed:

- **Men**: "the basic factor in combat" (Colonel B).
- **Flexibility**: "the dominant quality" (Captain M).
- **Numbers**: "the major requirement if infantry is to be determined and aggressive" (Major B).

Unfortunately, these three assets were too often lacking during the campaign.

**MEN**

In 1953 the infantry constituted 52.3 percent of the troops. But the same year, its losses totalled 65 percent of the whole of the Expeditionary Corps. This alone reveals the extreme attrition to which this branch was subjected.

First of all, the mobile units suffered from incessant overwork: "We never rested. As soon as one operation was finished, we would start another, or rather, as soon as a battalion had completed an operation, we rushed to prepare a new one for it. During the day, there was the exhausting march along the dikes or on the trails, in the mud or in the brush. At night, we had to stand guard, or make up patrols and ambushes. This lasted for years: in six months, we did not even once go to our rear base. The infantry was worn to the limit."

For the fixed units, there was the deadly impact on morale. "The military post was equivalent to military inaction. Not that its
occupants did nothing; on the contrary, the activities were multiple
and varied. But no positive work was accomplished: the post pre-
vented neither the sabotage of the routes, the passage of Viet
Minh troops and their supplies, nor the positioning of strong ambushes.
All it did was 'wait'...and what is harder on the nerves than waiting?"\(^1\)

The losses themselves were actually due in large part to the lack
of training. "In France, the infantryman received a rudimentary train-
ing and it was with this that he had to fight, for he was thrown into
the battle from the moment he arrived in Indochina. His training was
carried on under fire, but at what a price in losses! It was often
said: If one survives the first three months, one has a chance of
coming out alive."

The age of certain cadres was also a handicap. In a report to
the Ministry, the Commander in Chief pointed out that the average ages
of the infantry officers beginning their tour in the first quarter of
1954 were as follows: second lieutenants, 31 years; lieutenants, 35
years; captains, 38 years; battalion commanders, 43 years. He then
added, "One French battalion engaged in the hill country in December
1952 was commanded by a captain 42 years old. The average age of the
second lieutenants was 36 years and of the lieutenants, 38 years. Is
it any wonder that this battalion arrived on the battlefield completely
exhausted by five days of march and that it was 'roughed up' in its
first engagement?"

**FLEXIBILITY**

This was a characteristic of the enemy, but very rarely of us:
"To face the Viet Minh, who was lightly equipped, accustomed to hard-
ships, able to travel with only a small supply of rice, and capable of
crossing rivers on banana-tree trunks, we used an infantry that was
poorly trained, weighted down by its impedimenta, and excessively
burdened with supplies and ammunition."

\(^1\) Lieutenant X.
"Lieutenant Colonel X had been nicknamed 'rice, dried fish' during the years 1949-51, for in each operation carried out under his orders, we left with that which had become his nickname. He was one of the few who brought to combat fresh, well rested troops. If we complained about the diet he imposed, we did however appreciate the lightness of the load this ration system permitted... In contrast, at the start of Operation GONDOR, April 13, 1954, we left carrying five days' rations in our packs (in other words, close to 15 kg) plus reserve ammunition. By the end of the second day of march, we had to bury one corporal and had to evacuate twenty-five men, who otherwise would have probably died along the way."

This heaviness and consequent lack of flexibility was complained of more than once. This makes one question our organizational and operational concepts, for the problem was far from being unique to the infantry.

NUMBERS

First of all, the infantry suffered from a chronic shortage of officers: "The poor showing made by numerous battalions was above all attributable to the quantitative and sometimes qualitative weakness of the French leadership. In such a hard war, against an adversary that combined modern armament with a complete familiarity with the country, it would have been necessary for our units to be strongly led. It would have been appropriate to have at least 18 French officers, and 60 to 80 French noncommissioned officers per battalion."

"While the on-board strengths approached these figures, there were never more than 10 to 12 officers and some 40 noncommissioned officers available for operations."

The infantry also suffered from a lack of men. Here is one example out of hundreds: "The operational strength of two battalions of my mobile group was 420 in February 1954, 350 in March, 450 in the beginning of April, 350 on April 18; it reached a high of 575 at the

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1Colonel B, mobile group commander.
end of May....Well, a battalion that does not have 600 men in combat is not a battalion."¹ In fact, once the troop strength of a battalion diminishes, the rifleman category is affected more than any other: losses in combat, replacements in the other specialties, etc...and it is then that we heard the cry, "We are short of riflemen!" And yet, "in the offensive, it is the infantry that ultimately constitutes the shock element; the rifleman is also the decisive factor in the defense and the counterattack."¹

The infantry battalions should have been disbanded once their potential was reduced below safe limits. And the singularly appropriate remark of one officer, "The more a battalion is weakened, the more it suffers casualties," supports the unanimous opinion, "Fewer battalions but better battalions." However, the command, spurred on by operational requirements, very rarely disbanded battalions.

The infantry, already worn down by losses and by fatigue, was handicapped all the more by the heterogeneity of its personnel. The qualities of each battalion were generally the reflection of the racial characteristics of its personnel--Legionnaires, North Africans, Africans, or Vietnamese from specified regions. Thus some would be better in the offense, while others would prove superior in the defense.

Some were reliable under fire, but heavier and slower than the enemy; others achieved a certain lightness, but proved unstable in action. Some engaged in night combat without any apprehension, others felt oppressed by darkness. Some were at ease in the rice paddies, others preferred the mountains and the jungle.

Fatigue also differed according to race. These differences could have permitted a tactical specialization of the units according to their intrinsic aptitudes. But the multiplicity of the forms of the war and its extension over the whole of Indochina practically prohibited this. Thus the battalions had to remain polyvalent, lest they limit

¹Colonel B, mobile group commander.
the possibilities of maneuver of the command. From this there arose certain errors in large-scale operations as well as in smaller actions.

A comparison with the Viet Minh infantry will serve to illustrate how much our infantry was handicapped. The Viet Minh battalion was recruited on the territory where it was to fight. Our battalions depended upon replacements whose numbers and times of arrival were highly variable. At times a large influx of recruits would require several weeks to break in; at other times vacancies were only partially filled. On occasion the imminent end of the tour for a large number of troops was manifested in a unit by its poor physical condition or its instinctive tendency to avoid taking risks. Sometimes the new arrivals all came from the same ethnic group and it was impossible to distribute these troops throughout all units. This latter problem was a weakness which could not be remedied, since it was inherent in the composition of the Expeditionary Corps. Unfortunately, it had a disastrous effect upon the infantry.

The Viet Minh battalion was all Vietnamese, whereas our battalions did not always have officers and NCO's who had previously known their men. We should admit here that some of them made little effort to try to understand the psychology of their troops.

In the chess game that was the war in Indochina, one could say that "Ho Chi Minh played without knights." Thanks to air, road, and maritime transport, we had all the knights. But even so, a battalion accustomed to combat in the rice paddies could not quickly reorient itself to combat in dense cover, jungle, or mountain terrain. The Viet Minh units moved on foot and thus enjoyed a gradual orientation to the area. They had all the time necessary to come to understand and to judge it. This, on the contrary, was not allowed to our battalions, who were continually being shifted from one place to another to counter a critical situation. They would scarcely begin to appreciate that the unfamiliar relief and cover imposed differing tactics when they would engage in combats whose nature allowed no margin of error on the part of the troops or their leaders.
Our battalions were also far more vulnerable than those of the Viet Minh. This was due to the fact that the enemy never attacked without first having local superiority. It was also due to the fact that our troops were trained to western concepts of combat and thus found themselves unable to act effectively without air and artillery support. This last point, the constant dependence upon artillery to counter the least evidence of resistance, is also a classic sign of unit fatigue. It has been observed many times when infantry has sustained excessive losses or have been worn out by too many battles. This was also manifest in the concern over being encircled, which perturbed many battalions when they operated independently.

We should not forget, also, that the offensive spirit was quite rightly tempered by a fear of mines and booby traps, by the inadequacy of the means available to evacuate the wounded,\(^1\) and, above all, by the feeling that we seldom held the initiative.

**THE INFANTRY BATTALION**

Whether it was to engage in major operations as part of a mobile group, or to defend the blockhouses in a fortified position, or to undertake the pursuit of the guerrilla, the infantryman normally fought as part of a standard battalion.\(^2\) Such a battalion was characterized by:

- A headquarters and service company (H&S Co.) which included the headquarters personnel, the battalion supporting arms, and all of the organic service elements.

- Four rifle companies, each with three platoons, and each platoon with three squads.\(^3\)

- A motor transport element providing partial motorization.

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\(^1\)A man who was wounded one to two hours before nightfall would normally have to wait to be evacuated by helicopter the next morning because being carried by stretcher over the paddies or dense brush would certainly kill him.

\(^2\)Except for the Moroccan battalions.

\(^3\)The rifle company included a headquarters platoon and a support platoon.
A company of native auxiliaries was also often made available to provide additional personnel, and serve as a light element well adapted to field conditions.

The "Far East" battalion thus constituted and provided with its own administrative capability was somewhat lighter than its counterpart in Europe, but it nevertheless continued to be well suited to normal infantry tactics in average terrain. This organizational concept thus satisfied the needs for maneuver battalions to meet the particular conditions in the Far East. On the other hand, this organization could not apply for the fixed battalion, in which case the organization depended upon the number of posts to be occupied and the numbers and types of weapons to be manned.

THE MANEUVER BATTALION

The organization of the H&S Co. was most often criticized: "All battalions on operations had to have a rear base formed of levies imposed on the companies, and in particular the H&S Co., since no personnel allowances were authorized for this purpose. As a consequence the operational units were deprived of some of their cadres and their transport to satisfy the base area requirements, and this in turn lowered their effectiveness in the field." Because of this problem, certain people considered that "Rather than seek to combine in one H&S Co. operational elements which normally go forward, and administrative elements which normally stay behind, it might be better to organize this unit into two elements, one, a headquarters company for operations, and two, a service (administrative or base) company."

Others, on the contrary, thought that the single H&S Co. could be retained, providing that "battalions are relieved of responsibilities for organizing rear bases by consolidating similar service and administrative elements into a rear area zone." This appeared to be desirable in the case where a battalion was part of an infantry regiment within a mobile group. In the case of separate battalions, however, the splitting of the H&S Co. into two elements appeared preferable.
The four rifle company organization met with universal favor. "At the battalion level the availability of four rifle companies permits three to be used for fixing, covering, or maneuvering, while the fourth company can be held in reserve ready to exploit or, if necessary, to counter an unexpected development. Four rifle companies are essential for area operations."

The headquarters and service company was unable to protect the battalion command post, the air liaison and observation detachment, and the heavy weapons because of the general insecurity that prevailed and the infiltration tactics of the Viet Minh infantry. To provide this essential security, battalion commanders adopted a number of expedients. In certain battalions, "the H&S Co. was integrated within the offensive formation usually under the protection of one of the rifle companies. Unfortunately this often meant that the heavy weapons were badly emplaced in that they were within range of enemy small arms and, in general, too far forward."

In other battalions the protection of the command post and the heavy weapons was assigned to the pioneer platoon. But this became difficult when the pioneers had to man the 57-mm recoilless rifles which the battalions were allocated without additional personnel." Finally, still other battalion commanders organized two combat platoons within the H&S Co. for a multiplicity of missions: command post security, protection for the heavy weapons, raids, ambushes, guarding POW's and coolies...etc."

In ground warfare, the problem of providing security for the command elements and supporting weapons thus exists for the infantry as it does for other branches. But infantry battalion commanders have considerable latitude in moving their people about. Thus the organization of a rifle platoon within the H&S Co., as some recommended, appears to be a poor use of personnel under many circumstances.

The heavy weapons authorized the headquarters and service company included four 81-mm mortars and four 57-mm recoilless rifles. It was
seldom possible to take all of these weapons on an operation because of shortages of personnel and the frequent requirement to travel lightly. In general, therefore, the 57 recoilless rifles were assigned to the rifle companies, and only two of the mortars were taken along.

There has been no argument over retaining all of the 81-mm mortars in the H&S Co. However, there are differences of opinion as to whether or not the 57-mm recoilless guns should be retained at battalion level or assigned to the companies. It would seem desirable, in this connection, to keep the companies light and leave the 57's at the battalion level to be assigned to the companies as required.

The communications equipment authorized for the battalions was adequate to meet both their internal and external communications needs. One deficiency should be noted however. The 81-mm mortar sections had only one SCR 300 (or ANPRC 10) radio set, and could not communicate when the forces were dispersed, the SCR 536 being generally useless. The only comment to be made concerning motor transport was its limited support capability once operations were undertaken away from roads.

The rifle companies were often reorganized into four combat platoons by their commanders. This breakdown was generally preferred by the small unit leaders: "more flexible, less heavy, this organizational structure facilitates movement, and increases maneuverability to the point where tactics may be more daring. It also makes for greater security."¹

The advantages and disadvantages were well expressed by Lieutenant N, a company commander: "To begin with, the lack of experienced platoon leaders suggests that units should be light and easily commanded. Because of this overriding reason platoons of two squads appear to be justified despite the disadvantages of this sort of organization..."a

¹Captain V, company commander. It should be noted that the four platoon company lost the firepower of one automatic rifle. This, however, was often assigned to the company command post security squads which company commanders most often kept close to them.
platoon of two squads can no longer maneuver and thus engages rather like a reinforced squad with two automatic rifles in the forward echelon. The platoon leader thus has only to ensure that these are covered and protected by riflemen; the platoon leader needs little experience and a good squad leader could do the job. This means, however, that maneuver only becomes possible at the company echelon. Thus the company commander is almost forced to combine his four platoons into two combat elements each commanded by an experienced officer or NCO. The disadvantages of this arrangement are readily apparent: a two-squad platoon cannot be assigned missions that are normal for a triangular organization unless it receives a temporary reinforcement, and this must be taken from some other platoon.

"All things considered, the flexibility of this system permitted it to work well in the delta against regional Viet Minh units. However, it was too light for normal combat, where a unit had to have its elements within mutually supporting distance, and where a single platoon would be required to scout the enemy and maintain contact with its own resources until reinforcements or support could be made available. In conclusion, the four platoon company was suited for operations in the delta where regional Viet Minh forces imposed upon our units a greater need for lightness and flexibility than for maneuvering ability and firepower. Thus, this organization is suitable for light battalions, but not for units within a mobile group which are most often involved in heavier engagements."

The disadvantages of the four platoon company were intensified when troop strengths were low. "As a result of losses from several causes, my company seldom engaged in operations with more than 90 men," said a company commander. "The platoon under these conditions was reduced to only two automatic rifle teams (or ten men) plus five to six riflemen, which included the rifle-grenadiernen and one man with a sniper rifle. There was no maneuver at the platoon echelon and the company, of necessity, became more cumbersome, because it could only assign limited missions to its platoons." These various comments thus indicate that the four squad platoon is useful only when platoons have a minimum of 30 men each.
The support platoon of the rifle company (a machine gun squad and a 60-mm mortar squad) was intended to provide immediate supporting fires. But shortages of personnel, or the need to reduce weight, often resulted in having only one machine gun and one 60-mm mortar with limited quantities of ammunition.

Despite the desire expressed by most company commanders to retain even such few supporting weapons, others felt that "the assignment of two machine guns per company is not justifiable in that it makes the unit heavier and denies the battalion commander the means of personally influencing the action. The eight machine guns should be placed in the battalion weapons company and used at that echelon, or assigned to the companies as required."

At this point, note should be taken of how often all echelons referred to the allocation of resources on an "as required" basis. This, however, was not always acceptable to all. "Many small unit leaders and experienced platoon leaders remained convinced of the vital need for a fixed squad organization and for the automatic rifle as the very heart of the squad, even though terrain and vegetation frequently did not permit its use...This obsession over the automatic rifle often resulted in a reluctance on the part of the rifleman to move out individually, even in areas where infiltration was called for."

On the other hand, it should be admitted that an organizational concept on an "as required" basis as defined in the Infantry Regulations of 1951 tended to become rigid; it had become the practice to speak of these temporary formations in terms of shock and firepower which were normal to regular unit operations. Therefore, the temporary formations tended to become increasingly permanent.

Thus, there gradually appeared the concept of the platoon composed of:

- A base of fire: two teams of riflemen.
- A "shock" group (maneuver element): three teams of rifle grenadiers.
- A support group: rifle grenades.
Or, alternatively,

- A base of fire: two teams of riflemen.
- Two "shock" (maneuver) groups, each with two rifle-grenadier teams.

Several Tables of Organization gave an official status to these concepts toward the end of the campaign. The organization of the auxiliary platoon (Vietnamese) for the Far East ground forces, for example, consisted of one base of fire element and two "shock" (maneuver) elements.

Certain commanders went even further and spoke of companies made up of one platoon to serve as a base of fire, and two platoons for the "shock" (maneuver) element. Others advocated copying the Soviet organization by creating within each battalion one machine-pistol company for actions requiring unusually light formations or a heavy shock effect. Finally, there was also the idea of forming teams of scout snipers with telescopic sights for their rifles, units of rifle grenadiers, or the grouping of all the mortars and machine guns at battalion level.

All of these views indicated that the concept of organizational flexibility which was inherent in the regulations of 1951 had exerted its influence. This was evidenced by two general tendencies: first, the elimination of one of the three automatic rifles in each platoon, and second, the reorganization of the platoon to conform to the normal type of missions undertaken in the Far East. What happened in effect was that platoon leaders, having assumed the right to organize their commands as required, evolved personal solutions which in fact varied little. This indirect conformity has a psychological basis. Thus, if the reorganization of the normal three squad platoon into a base of fire element and a maneuver element provides a somewhat more effective tactical combination, it nevertheless does destroy the personal homogeneity of the squads at the time this becomes most important; i.e., at the moment of short range combat. In sum, by organizing, in advance, nuclei to serve as a base of fire and as maneuver elements, commanders sought to establish the same personal ties between individuals which existed in the normal squad organizations.
It would therefore have been better to formalize in Tables of Organization what everyone was doing on his own. The reorganization of the platoon into base of fire and "shock" (maneuver) elements did not in any way impede a further reorganization on an "as required" basis. But this was more easily accomplished by combining fire and maneuver elements than by altering the basic platoon organization.

THE STATIC BATTALION

Static defense missions included the occupation of posts and the security of critical areas: air and naval bases, supply depots, etc. It is strange that we never organized special infantry units for these purposes derived from the old company organizations used for the defense of, and maneuver within, fortified complexes. The first of these units could have been assigned to the defense of posts, where they could have manned the more technical equipment: tank turrets, heavy mortars, generators for the floodlights used to illuminate the wire obstacles, etc. The maneuver companies could have manned the normal infantry weapons and could have been assigned all external operations: opening of the roads, patrols, ambushes, the smaller ground combat operations in the vicinity, etc. But this solution was not adopted for a variety of reasons.

First of all, the many types of fortifications and the variations in the size of the garrisons made it impractical to organize standard companies. Moreover, even if this had been done, it would have been necessary to constantly alter the composition of the units assigned to any given post or critical area as the installation changed through the addition of blockhouses, expansion of the complex, etc. In addition, static battalions were often called upon to participate in field operations within a sector. Thus, forming them into mobile units would have been further complicated. There was also the frequent transfer of personnel between mobile and static battalions which suggested that these were supposedly interchangeable. Lastly, we had almost abandoned the idea of "fortress infantry," since this concept had been so thoroughly discredited in the disasters of 1940.
Despite the foregoing reasons, a few specialized infantry units for the defense of certain critical areas were created. For example, the Saigon-Cholon Colonial Infantry Battalion with six rifle companies, the Haiphong Area Defense Group, the 31st Provisional Senegalese Battalion with five companies, and the Cap St. Jacques Company. However, these units were the result of local initiative.

The chronic shortages of infantry personnel were particularly noticeable in the static battalions. These battalions always lacked command personnel despite the evident need to have an officer in command of all major posts. As a general rule each battalion had to provide at least four officers to the local area headquarters, when all they usually had were 10 to 12 officers. Moreover, the occupation of various posts often resulted in breaking up the homogeneity of the smaller units with unhappy consequences; too many posts were not even commanded by staff NCO's, and all lacked NCO's. In addition to these quantitative inadequacies there was a qualitative deficiency in that, most often, the less competent personnel were assigned to static units.

As a consequence of this, there were very few individuals remaining to carry out any sorties. Thus, "the lack of personnel within subsector reduced the availability of personnel to operate in the environs with the result that the garrisons of the posts were too often incapable of extending their radius of action far enough."\(^1\)

The garrison personnel were also subjected to further difficulties, because "for every operation it was necessary to form mobile units and these most often revealed a lack of cohesiveness and capacity for maneuver."\(^2\) This was a factor which the experience of "fortress infantry" in 1940 had clearly demonstrated; units tied to fortifications undergo a progressive deterioration. "Because static battalions remain permanently in position, the personnel lose their effectiveness as a consequence of their mission...and deadly routine."\(^3\)

\(^{1}\)Major G, area commander.

\(^{2}\)Captain A, battalion commander.

\(^{3}\)Major G, area commander.
"The many requirements within a post resulted in the fact that all personnel had to be present, even if not involved in some particular activity. There was thus a "coefficient of fatigue" among the personnel which was greater than normal. During the day there was the clearing of vegetation over several acres, the repair of the outlying defenses, the maintenance of weapons (in some posts there was one automatic weapon per man), and the participation of some two-thirds of the troops in road security operations, or in village sweeps which could be undertaken at dawn, at midnight, or even at three in the afternoon. At night, there were many painful guard duties, combat outposts to man, and ambushes to organize. There was a constant tension among the men and particularly among the commanders of the posts who, each night when the post was buttoned up, would have to ask themselves whether this was their night to be hit."1

In addition to the physical wear, there was the wear on morale, for "concrete" doesn't arouse any enthusiasm. "The single 'concrete' spoken by people who assigned newly arrived personnel was enough to arouse concern and apprehension. Rumors of the life of the 'cave dwellers' had already reached their ears before they debarked, and they were not happy at the thought of getting involved in static warfare."2

Another officer wrote, "Concrete destroys the best of wills, and dulls the temper of a person's finest qualities. Why should some privileged units spend an eternity in reinforced concrete cages when others would have liked nothing better than to rest within them for several months? Combat which seeks to retain control over an area when the means required to seek the enemy out are lacking is the worst form of war that I know. It is terrible to see one's troops suffer casualties in ambushes and attacks against one's position without being able to know what losses one has inflicted on the enemy."3

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1Captain N, company commander.
2Lieutenant R, company commander.
3Lieutenant G, company commander.
"From the time that we began to build with concrete it did no good to have displays saying 'Don't Wait for the Viet, Go Look for Him.' For once we placed the emphasis on defense, the offensive spirit quickly lessened. All area and post mission orders began with the expression, 'In order to ensure control of....' All this did was to contribute to mental laziness. There was never any change in road opening operations or in brush clearing details within the wire, which might have been called 'The Fight Against Monotony.' All activity was a form of 'waiting' with all of its unfortunate consequences: the imperceptible slackening of attention because nothing ever happened until the day when the Viet would take advantage of a propitious moment to launch a violent attack, the weakening of command effectiveness because of the development of excessive familiarity between the men and their leaders, and the growing attractions of liberty in the towns, particularly in the larger installations."\(^1\)

All of this confirms the absolute necessity for periodic reliefs as one of the basic lessons learned in the whole of the war. When posts or critical areas are defended by normal infantry units these must be rotated at appropriate intervals. The static defense mission should never exceed a few months, and once the unit involved is relieved it should immediately undergo a training refresher period.

**AUXILIARY UNITS**

The existence of native formations as auxiliaries is a fact of history. From the days of the Foederati of the Roman Armies, to the Moghaznis\(^3\) used during operations in Morocco, one has always been able to find men who would freely risk their lives for little pay: men without concern for a pension for their families, as long as they were permitted to fight in the vicinity of their homes, could terminate their service when they desired, and could visit their wives and children between operations. Such arrangements can, of course, only be undertaken when decisions regarding the mobilization of a

\(^1\) Captain J, company commander.
people, and the comprehensive measures for its control within a given territory, are still pending.

Before the war it was the practice to use local people as auxiliaries in the posts along the border areas of Tonkin. Beginning in 1946-47, the ever increasing requirements for manpower led to the progressive recruiting of such partisans throughout the peninsula, and their numbers continued to grow; in 1954 auxiliaries exceeded 55,000 men. Such auxiliary formations made it possible for us to avoid assigning regular units to secondary missions and, in addition, provided our nonnative units with the valuable assistance of light forces who were thoroughly familiar with the local areas.

The organizational concept for these formations was that of a small unit. The auxiliaries were grouped into military auxiliary companies, a certain number of which could be organized within each territorial command. The administration of all such companies within a territory was centrally controlled. The organization of each company was simple, and the Table of Organization provided for a minimal headquarters element—the company commander and two radios—and four platoons, each with one fire support element (a single automatic rifle) and two maneuver elements.

The total strength of the company was 100 men, and the command personnel authorized included 1 officer, 8 NCO's, and 9 corporals. Armament consisted of individual arms and four automatic rifles. Initially these weapons were of varied type, but toward the end of the war they began to become uniform. These companies were therefore very light, and served to support and complement regular units for certain missions. The best results were generally obtained when one such auxiliary company was assigned to a regular infantry battalion. At times other organizations were tried: "Certain units such as the 1st Special Auxiliary Battalion of Kien An proved entirely satisfactory."

Some officers suggested the creation of light provincial battalions which could be given independent missions. This idea had some merit and, indeed, it formed the basis for the organization of the light infantry battalions (Tieu Doan Khinh Quan) of the Vietnamese Army.
The Value of Auxiliary Units

The assignment of auxiliary units to static tasks (occupation and defense of posts, guard of critical areas or roads) is to be avoided. "To give to auxiliary troops alone the mission of defending a post is completely unsatisfactory, since they are incapable of enduring periods of inaction, and have to be helped and reinforced at the very first alert. They cannot be expected to hold a position because they are too lightly armed, inadequately trained, and poorly equipped. Further, they are recruited from elements of varying reliability, are influenced by external factors (friends, families, etc.), and have no moral commitments. Moreover, to enclose alone within a post an auxiliary force with its women and children is to create a civilian-military society which is particularly vulnerable to enemy action and propaganda."¹

"One should expect unfortunate consequences when auxiliaries are used for guard duties, as personal servants rather than scouts, or when, as in the case of auxiliaries stationed in posts, they are used for all the night operations under the pretext that they are lighter and quieter than the regular troops. At times, of course, the employment of such detachments was indicated. However, one had to be careful to avoid assigning them tasks which were beyond their means and capabilities."²

One must admit that it is difficult to avoid thinking in terms of auxiliary troops for the occupation of certain positions such as watch towers. The effectiveness of the auxiliary troops for other tasks was in general excellent, as Colonel N, zone commander, attests: "Auxiliary units were quite satisfactory and gave evidence that it was possible to make them into excellent assets at little cost. Unfortunately, their number was severely reduced because of the lack of regular officers for such irregular formations whose appearance and discipline often came as a surprise to military personnel conditioned

¹Captain L, battalion executive officer.
²Lieutenant C, company commander.
in Europe. It appears possible that such light native formations can be recruited in all theaters of operations."

Another officer stated, "Our auxiliary companies corresponded perfectly to the views held by several of us on the nature of warfare in Indochina. By virtue of being light and highly mobile, and by being made up of men who were thoroughly familiar with deception techniques, enemy tactics, and the countryside, these units rendered valuable services despite their inadequate training and shortages of leaders."\(^1\)

Unit leaders most often were rated natives, and the Europeans seldom numbered more than two or three. However, the senior European was always the company commander regardless of the rank of native leaders. This led to some unusual situations where, for example, a junior French NCO had a native staff NCO in his command, or where a French NCO commanded a company in which there might be a native lieutenant. Admittedly, though, the native leaders were most often of rather poor quality.

"Auxiliary formations should have received select leaders who were professionally competent, had high morale, and who were familiar with the customs and practices of the people in the areas where they would have to operate. Unfortunately, the cadres of the units were too often concerned with living off the country or with taking care of their personal needs, rather than with carrying out impersonally the missions they had been assigned."\(^2\)

Training was often perfunctory: "The auxiliary became a warrior in one day. He learned his trade in combat and this was patently unsatisfactory. Technical training must be emphasized, while instruction in tactics may be left to the initiative of the men who will apply to it their instinctive knowledge."\(^3\)

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\(^1\) Captain N, company commander.

\(^2\) In certain territories NGO schools for auxiliaries were organized and these produced excellent NCO's, but these schools were too few.

\(^3\) Colonel N, zone commander. Nevertheless, instruction in tactics must be directed and supervised.
An improvement on the material side would also have been desirable: formalization of the status of the auxiliary, increase in pay, some security for the family, and a pension in the event of disability. Finally, and this is not restricted to auxiliaries alone, there could have been an increased allowance of machine pistols and rifle grenade launchers.

With due regard to the reservations just mentioned, the primary missions assigned to auxiliary forces should take advantage of their lightness and simplicity while remaining essentially offensive in nature:

- Detailed search of a village or an enemy area which has just been occupied
- Reconnaissance on both sides of an axis of advance
- Flanking maneuvers
- Infiltration in difficult terrain

Within this same spirit missions which appear defensive in nature can be considered:

- Maintaining contact at night between strong points
- Indirect protection of a line of communications or a convoy
- Night ambush and reconnaissance

Finally, each auxiliary company can organize, in a manner similar to the Viet Minh, an intelligence gathering nucleus (10 to 12 selected individuals). Such a group could, by working with local elements (militia, self-defense units, civilians), gather useful information on terrain conditions, local popular attitudes, and the enemy, providing, of course, that it had received proper training for the purpose. Thus conceived, auxiliary forces play the role of light infantry serving as scouts around regular formations; they may thus be called upon to operate in a territory with whose characteristics they are unfamiliar.

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1Lieutenant Colonel X defines the missions that can be assigned to auxiliaries in a more vivid, but just as correct, fashion: "They are asked to beat the bushes."
The term "commando" came to enjoy the status of a veritable fad. Not only was it used to refer to a form of action, a spirit, and a doctrine, but it was also used to identify all sorts of units with all types of organizations: parachute commandos, airborne mixed commandos, naval commandos, landing force commandos, "shock" commandos, installations commandos, commando Bergerol, commando Vandenberghe, commando Lasserre; even the veterinary corps went so far as to name one of its creatures the "cynocommandos."

This widespread proliferation of commando type units caused some devaluation in the term "commando," but it does reveal the continual and determined search for a form of action more suited to warfare where there are no fronts than is possible with regular units. The creation of commandos responded, in fact, to the need to play the same game as the enemy. "We could not confine ourselves to conventional operations, which relied upon power, centralized control and steady pressure, and where the infantry, working in close liaison with other arms, tended to concern itself with the occupation of terrain. We had, on the contrary, to undertake shock and guerrilla type actions which depended upon surprise, which were characterized by decentralized control and variable intensities of action, and which were carried out by isolated detachments who were not particularly concerned with the occupation of terrain, but rather with the destruction of the enemy and of his warmaking potential."

The nature of the theater of operations did, with certain differences, lend itself to operations which are typically commando actions. The differences depended essentially upon whether the area of operations was effectively controlled by the Viet Minh, or whether it was an area where both sides fought for control of the population and consequently were closely intermingled. In the former case, such areas were more suited to amphibious or airborne operations. In the latter case, the function of the commandos was to counter enemy raids and ambushes. For operations in Viet Minh controlled areas, specialized units were required—airborne mixed commandos (which became...
mixed intervention groups in 1953), and airborne troops in general. For operations in contested areas, auxiliary units were initially used, and different types of commandos were organized with these in each territory.

In any event, beginning in 1953 it appeared desirable to reorganize these units, which had become highly diversified and of most unequal capabilities. Thus, under the title of "Commandos of Indochina," a standardized organization was drawn up and was gradually implemented. The immediate improvement in effectiveness makes one wish that this measure had been taken earlier.

Organization

Native auxiliaries continued to provide the major personnel strength of the commandos, but these were granted a higher status than those in the normal auxiliary units. The main object was to eliminate instability of personnel, which is always highly prejudicial to the effectiveness of units requiring intensive training. The men thus had to enlist for one year, in compensation for which they received substantially greater financial and material rewards. A separate office was established at the Commander in Chief level to treat matters regarding the status of these personnel, and to elaborate the required training directives and associated doctrine. A "commando command" at each territorial echelon was created to handle the administration and utilization of these formations. This last was organized as follows:

- A headquarters group
- An administrative center to relieve all units of this task
- A given number of regular and shock commandos
- Later, some amphibious commandos

In principle, the commandos should have been able to discharge all the types of missions which the term commando suggests. However, experience led to specializing these units to better respond to the geographical features and operational activities peculiar to Indochina. Thus, in partially controlled areas, regular commandos were made
available by territorial headquarters to subordinate echelons. These operated primarily on the periphery of dissident zones from a depth of a few kilometers (in North Vietnam), to several tens of kilometers in country that was easily infiltrated or had a small population. They were also very often used within disputed sectors to assist in the counter-guerrilla effort. The shock commandos constituted a reserve available to the territorial commanders. They were, in theory, intended primarily to make deeper penetrations into enemy-held areas to carry out raids. However, they were frequently used to assist the regular commandos. In the waterways complexes, the Dinassauts used amphibious commandos\(^1\) which were assigned to operate on the riverbanks. The personnel were provided by the Army, but they worked directly for the Navy. Lastly, for raids along the coast, the Navy had naval commandos.\(^2\)

The Tables of Organization for commando units were not as formal as those for regular units. The actual organization of the detachments depended upon the requirements imposed by the operation contemplated. With this reservation being noted, the basic composition of the commandos as it evolved with the organization and training facilities available was as follows:

- The regular commando consisted of one headquarters platoon and three combat Platoons, each of which had a headquarters element and two squads. The total strength corresponded generally to that of the auxiliary military company (106 in the commando to 100 in the auxiliary company) but there was a higher percentage of NCO's in the commando: 1 officer, 4 NCO's, and 1 corporal (radio) for the French personnel, and 8 NCO's and 25 corporals for the native personnel. The armament provided a multiplicity of capabilities: 47 machine pistols, 15 carbines (U.S.), 6 rifles, 20 rifles with grenade launchers, 6 semi-automatic rifles, and 6 automatic rifles. Communications equipment also provided substantial capabilities and included 1 SCR 694, 4 SCR 300, and 5 SCR 536.

\(^1\)Also designated light support companies.
\(^2\)See section on the Navy.
The shock commandos and the amphibious commandos were organized generally in similar fashion, but had increased numbers of French personnel—2 officers and 7 NCO's.

Effectiveness of the Commandos

The existence of these types of units was the subject of much controversy, and many were opposed to any sort of commando or other specialized type of unit. The views expressed by Major X well summarize this point of view: "The fascination of commanders with the so-called specialized types of units is not justifiable in terms of the missions assigned; most often they perform the usual routine tasks of infantry companies. These may be performed better because they have more leaders and better training, but they also may be performed more poorly because they don't know the country. Thus, specialized units create certain difficulties. Either they operate outside of normal command channels, which is contrary to the requirements of warfare where a single individual must be responsible for command and associated doctrine, or they follow parallel channels, which results in complete confusion in areas where junior commanders of "special" units develop habits of insubordination which are incompatible with military organization. The whole of the effort must be placed upon regular military formations. If, considering all available leadership, financial resources, and training facilities, the elite from specialized units were infused into the regular formations, these would be capable of fulfilling all missions, including the so-called special ones. Thus the overall value of the main battle force, upon which, in the final analysis, depends the outcome of a war, would be considerably improved."

Lieutenant...is more abrupt in stating, "...to be rejected completely...a good soldier, well trained, should be equal to all normal combat missions. The truly specialized missions (frogmen, special agents, etc.) are only the concern of a small minority of persons. There is too great a tendency to multiply the so-called special units, who come to think of themselves as elite forces above
the humble combat tasks of the soldier, and thus become nothing but parasites in disguise."

As one can see, the controversy over the commandos replaced the previous one over the corps francs, without, however, producing any compromise solution. This is probably due to the fact that in Indochina the commandos had a rather deceptive effectiveness, as even their supporters will admit. The causes of their shortcomings were many. First of all they were often improperly used. "For many reasons (lack of personnel, lassitude of the garrisons of posts, etc.) sector commanders often diverted commandos from their assignments in order to have them open or guard routes or, at night, to have them act as outposts or to set up ambushes, when all of these tasks could have been carried out by the post garrisons themselves. In addition, the term shock commandos, used to identify general reserve commandos, was a misnomer, because these units were not any better trained than the regular commandos. Unfortunately, because of their designation they were often used by local commanders for missions beyond their capabilities. The failures in the karst areas of Ninh Binh and at Nam Mao in November 1953, and at Gian Khao in January 1954, were due to no other reason..."1

At this juncture, one may ask why the commando commanders did not seek missions which were more suited to their capabilities. Captain X provides an explanation in terms of the psychological factor involved: "It often happened that sector and subsector commanders tended to employ commandos stationed in their areas as regular companies or as shock forces, and any comments made regarding such employment by the commando commanders was considered to be indicative of their lack of discipline."

There is no question that some of our commanders were not well versed in the techniques of unconventional warfare, and consequently they were unable to understand the capabilities and limitations of

1Major X, commanding the commandos of North Vietnam.
units conceived for clandestine operations deep in the enemy rear. By the same token, one must quickly add that the quality of the commandos did not allow them to be employed without careful evaluation. ¹

They suffered from the basic handicap that their personnel was recruited from among native auxiliaries, and this is in contradiction to the concept of homogeneous and highly trained units. "A commando, in the full sense of the term, must be formed of regular troops who have received lengthy and prior training and who are periodically rotated to the rear for rehabilitation. Any other solution produces nothing but a gang which, although full of energy, nevertheless reveals all the failings and fragility of this type of grouping."

The idea of using auxiliary personnel may have been financially sound, but it did not constitute a rational employment of human resources. These units were too unstable to be able to receive comprehensive training even when they had the leadership to do so. Despite the one year enlistment contract required of people in the auxiliary-commando category, individuals who decided to desert for a variety of reasons were not tried; military courts refused to prosecute them and this became quickly known. As a result, almost all commando commanders reported that their operations were undertaken with large percentages of untrained recruits."²

What happened was that units trained themselves perfunctorily between operations and none of the men received any basic instruction, even the most elementary. In addition, leadership was not only quantitatively inadequate, as were all units of the Expeditionary Corps, but was also qualitatively unsatisfactory. "One does not improvise commando leaders. To be a volunteer because one is courageous and energetic is not enough. This is work that must be learned, and it can only be learned in special training centers in France. Too

¹ The remarks which follow do not apply to the naval commandos. Their personnel recruiting was different in that they were made up of people who had received specialized training in France. Nevertheless, naval commandos were not always properly employed either.

² Major X, commanding the commandos of North Vietnam.
many of the leaders had either not received such training, or if they
had, it was too brief.1

An effort had, nevertheless, been made in this regard. Training
courses had been established at the Frejus training center for some
leaders scheduled for overseas deployment, and a few training facili-
ties had been organized in Indochina through the initiative of certain
commanders. But all these facilities were inadequate until 1953, when
a school with the required facilities and instructors was organized at
Vat Chay (along the coast of the Bay d'Along).2 This helped resolve
the problem of proper training for commando leaders. There then
followed the question of training the troops. A succession of courses
was organized to provide six to eight weeks of comprehensive training
for each commando. The results obtained were excellent, but opera-
tional requirements were such that by the end of the war only part of
the units had benefited from this conditioning.3

As a final point to be noted, the operations of commandos were
hampered by inaccurate intelligence. There were many instances when
a promising raid yielded nothing, or otherwise failed because it en-
countered enemy elements far stronger than had been reported. The
gathering of information was certainly one of the basic tasks of the
commandos, particularly the regular commandos, but for this task they
would have had to be able to live amongst the Viet Minh, to learn his
tactics, and to be able to operate by small dispersed groups. To
meet these requirements, it would have been necessary to overcome the
deficiencies in leaders and training from which too many commandos
suffered.

1Major X, commanding the commandos of North Vietnam.
2The training center at Vat Chay inherited the installations and
facilities created for the commando training center, North Vietnam.
Thus the center included the NCO school for all Far East ground forces
as well as the commando training facilities.
3Two or three other more modest training facilities had been es-
tablished in the other territories and were just beginning to operate.
The brilliant successes of commando Vandenberghe and commando Lasserre, made up of rallied Viet Minh whose competence represented months of training, confirm once again the vital importance of the commander and his subordinates, as well as of well trained men.

The disfavor that the commandos were often the object of was due both to their lack of success and to the fact that they were made up of personnel levied on other formations. The concept of the commando nevertheless has some merit and such units can be used for missions which are beyond the capabilities of a good infantry. For this purpose two basic commando formations are indicated: shock commandos for operations deep in enemy territory where they will have to lead the same existence as rebel units, and intelligence commandos, which should be organized along the same lines as the Trinh Sat of the Viet Minh and trained to the same techniques.¹ The shock commandos should have a large percentage of European personnel, while the intelligence commandos should consist primarily of native personnel with only a few foreign cadres. European cadres for both types of commandos are necessary. Experience has shown that there are few native personnel with the qualities required for such missions.

¹See Section IV.

Translator's Notes

¹The normal tour of duty in Indochina was 26 months.

²Moghaznis were mounted auxiliaries who were self-equipped, except for a rifle and ammunition furnished by the French Army.

³Cynoccommandos are dog units.

⁴In World War I, the normal practice was for each infantry regiment to organize a specially selected and highly trained platoon-size force to carry out raids into enemy positions within the regimental sector or zone. These volunteer formations were called corps francs.
XIX. THE AIRBORNE TROOPS

French airborne forces took their first steps in Indochina. Only a few elements of the 2nd Colonial Infantry Parachute Regiment had been able to participate in some of the airborne operations of World War II. Thus, it was in Indochina that the airborne forces were to gain their patents of nobility, where a doctrine was to be evolved, and where a variety of techniques was to be tried. In the course of nine years, our airborne forces never ceased to fight. At the same time, they never ceased their search for the right courses to follow, and this search was conducted under unusual circumstances.

On the one hand, there was no enemy air force throughout the war. Assuming mastery of the air as the fundamental requirement for undertaking airborne operations, we were free to do what we wished, providing that the resources required were available. On the other hand, this was a war without front. This placed the airborne forces in a paradoxical situation in that they were presumably supposed to create this condition by operating in rear areas, while ignoring the existence of land or sea fronts. This duality of circumstances was to give rise to a contradiction between what our airborne forces accomplished, and what they had hoped to achieve.

GROWTH OF AIRBORNE UNITS

Indochina provided numerous possibilities for the employment of airborne forces because it was a large area and included a relatively high number of suitable drop zones. These conditions, together with the effectiveness of our initial parachute operations and the enthusiastic reception of this new branch, which had energetic leaders and was full of promise, caused the High Command to continually increase the number of these formations, and to give them all the support possible. This favorable climate explains the rapid growth of these units:

- In 1946 we had only a few hundred parachutists, all from the infantry.

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1 Report of the Commander, Airborne Forces, Indochina.
o In 1950 there were 5,684 qualified parachutists.

o In 1951 the figures had almost doubled (10,639 men), and artillery (two platoons of 75-mm recoilless rifles), engineer, and signal communications units began to appear.

o In 1954, the contributions of the several national armies provided a strength of six parachute battalions in the Expeditionary Corps, six Vietnamese parachute battalions, one Laotian parachute battalion, and one Cambodian parachute battalion, plus several units from other branches.

**RELATION TO THE TERRITORIAL ORGANIZATION**

At the beginning, companies and battalions were used either individually or as combat teams or demi-brigades, (the demi-brigade of Colonial Parachute Commandos, and the special demi-brigade of parachutists). Since these units received no support from the territorial base structure and were not subordinated to any single designated command, they had to depend upon their own resources for the required technical services support. It thus became necessary in 1949 to organize an Airborne Forces Command to carry out the same functions as those for the artillery, armor, etc., and to assume, in particular, the responsibility for organizing the parachute units of the national armies. That same year the problem of base support was resolved by creating two airborne forces bases, one at Saigon (B.A.P.S.) and another at Hanoi (B.A.P.N.). These bases, intended to provide the required materiel support, included appropriate headquarters, aerial resupply units, and the technical services to maintain and repack parachutes. Because of the permanent nature of these bases, they came to include additional units: jump schools, training companies, student platoons, etc. The personnel at these bases thus increased considerably.

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1 Including two battalions of the Legion.

2 In 1950 this designation was changed to Airborne Forces Command, Indochina (T.A.P.I.). An Airborne Forces Command, North, was also created to handle all such units in Tonkin.
By 1953 the growth of parachute units had reached the point where it was possible to organize supporting units, and three airborne combat commands. In addition, it appeared desirable to assign liaison and study teams, designated "permanent elements at operational headquarters" (E.P.E.M.O.), to the staffs of the headquarters of the Territorial Commands. These were assigned to the territorial headquarters at Hanoi, Tourane (Danang), Vientiane, and Saigon. The function of these liaison and study teams was to plan parachute operations by locating suitable drop zones and assembling for each one a target folder with all the necessary documentation. Once an operation was decided upon, the E.P.E.M.O. developed the plans in coordination with the staff sections of the headquarters to which it was assigned. The merits of this arrangement, in time saved and in detailed and accurate planning, were evident.

LIMITATIONS ON EMPLOYMENT

While Indochina did offer numerous possibilities for airborne operations, these were nevertheless limited by terrain and weather. "In contrast to the limitless horizons of the deltas, the mountainous areas had few drop zones, and relief and weather conditions there were serious obstacles to transport aircraft formations: unfortunately, it was in such areas that the main Viet Minh power lay."  

Climatic conditions did constitute a continuous problem insofar as parachute maintenance was concerned, but they did not interfere

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1 These included an airborne artillery battalion (75-mm recoilless), two airborne engineer companies, and communications and service support units.

2 Each target folder included: the characteristics of the drop zone (size, type of surface, possible defenses, communications, etc.), both vertical and oblique aerial photos, information on enemy activities and installations in the vicinity, whether the zone permitted complete sticks to jump or only half sticks, etc., and periodic meteorologic data (rainfall, dominant winds, etc.). Two thousand, four hundred drop zones were catalogued in this fashion, of which 900 were in Tonkin.

3 Report, Commander, Airborne Forces, Indochina.
with airborne operations. The dry season was particularly favorable, and the rainy season was never a complete bar to such operations. Nevertheless, as is common to all activities involving air space, the employment of parachute troops depended upon the weather. The periods preceding or following typhoons, in particular, prevented all such operations. The most severe limitations were, however, due to the shortage of transport aircraft and the requirement to recover parachutes.

**TRANSPORT AIRCRAFT**

In 1951 the Commander in Chief announced his requirements as follows: "The experience gained by the predecessors of Marshal de Lattre proved that it was futile to seek to fix the enemy and force him to engage in a battle of annihilation unless there were enough transport aircraft available to drop at least three battalions in his rear at one time."

Shortly thereafter, the Commander, Airborne Forces, Indochina, expressed his difficulties: "During the summer of 1952, the Commander in Chief, in seeking to regain the offensive, established as a requirement for all airborne operations the capability of lifting three battalions totalling some 2,400 men at one time. One hundred C-47 type aircraft were needed for this purpose. But all we had at the time were fifty C-47's (to which could be added 22 old Junker 52's), and it was already a major problem to find the required mechanics, pilots, and supplies for these. Nevertheless, the impossible was accomplished, and one hundred C-47's became available in Indochina on November 1. But as the battle of Nghia Lo revealed, transport aviation had to be used, as dictated by circumstances, not for offensive, but for defensive purposes. The deterioration of the military situation placed the High Command under the immediate necessity of localizing the rebel threat by undertaking operation LORRAINE, and then countering and fixing it by establishing the redoubt at Na San. Transport aviation in particular was required to make an extensive and continuing contribution to these

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1 This was the reason that the drop of these battalions in the bowl of Hoa Binh scheduled for November 14, 1951, had to be delayed because of fog.
efforts beyond the normal capabilities of the squadrons and their maintenance crews." Unfortunately, this was to continue up to the end of the war, particularly from the moment that the operation of Dien Bien Phu was contemplated.

During this period, the number of available C-47's went from 90 in January to about 100 at the beginning of April. American aid, which had provided five C-119's in October 1953, increased these to 15 during January and February, and then raised this number again to 25 during the months of March and April. There were, however, fewer crews available than there were aircraft because of fatigue, disease, and combat losses. In brief, we never had the aerial means to lift more than two battalions, as much for the paucity of our transport aircraft as for all other demands imposed (aerial resupply, medical evacuations, air transport of personnel, etc.).

RECOVERY OF PARACHUTES

The need for airborne forces to recover their parachutes continued over a long period of time. "Parachutes were in short supply and if they were not recovered, airborne operations would have quickly become impossible. The recovery of the parachutes was the responsibility of the unit engaged; operational experience revealed that about one-third of the unit that had made a jump would be required for periods of up to half a day to provide security for the drop zone and to recover the parachutes... All airborne operation plans included a paragraph on parachute recovery." ¹

The Viet knew full well how important this equipment was to us, and made every effort to destroy it even to the point of using women and children, as the following example indicates: "At the time of the airborne operation at Nghia Do when, on February 28, 1950, the Colonial Commando Parachute Battalion dropped directly upon Viets who were assaulting a post about to fall, the paratroopers found themselves engaged in hand to hand combat from the moment they reached the ground. The recovery of parachutes could then only be undertaken once we held

¹ Report of 1950 on the employment of airborne forces.
the ground. As a result, only two-thirds of the parachutes were recovered, while the remainder, totalling about 150, had either disappeared or had been torn to shreds. Once the parachutes were recovered they then had to be carried out, and this was quite a task. "After the Nghia Do operation, to evacuate the 350 parachutes recovered required a convoy to travel from post to post over the mountains for 200 km to reach Lao Kay, where there was an airfield." ¹

One can readily appreciate how the availability of expendable equipment or the utilization of helicopters to evacuate recovered parachutes would have lightened the task of our units. For years the recovery of parachutes was the heaviest burden imposed upon parachute units. This situation finally improved towards the end of the war thanks to American aid and to French production. In 1953 the plan for Operation H'LAMONDE still contained a paragraph on parachutes, but, at last, all this said was, "parachutes of units jumping into Langson will be destroyed upon landing." At Dien Bien Phu no operational limitations were imposed because of insufficient personnel parachutes, but there were only just enough of the large cargo parachutes.

SUMMARY OF OPERATIONS

At the end of the war the commander of the airborne forces evaluated his forces as follows: "The 'esprit' changed little in the course of the campaign. It is that of the professional soldier who volunteers for what he believes to be most difficult, who is confident in his physical resources, and who willingly takes risks because he will be able to overcome them by virtue of his personal courage. This, in short, is the 'esprit' of the paratrooper, and it was retained to the very end."

"The youthful and vigorous leadership which was excellent at the beginning remained generally satisfactory throughout. It did age, nevertheless, as a result of the passage of time, inadequate replacements, and attrition (substantial losses in combat and from disease).

¹ After-action report of the battalion engaged.
Beginning in 1952, the cadres which arrived or returned were equally competent and highly motivated, but they were somewhat older and lacked the energy of those of the earlier years. The greatest variable, however, was that of training. Airborne forces often arrived in Indochina as constituted battalions. However, in the course of the years, they often had to accept individuals who were of mediocre quality and insufficiently trained.

"The Airborne Forces Command was never able to obtain authorization to have all units coming from France undergo a period of orientation; these were most often committed directly upon arrival. There was neither the time nor the facilities to permit the conditioning of units or to provide them some refresher training in suitable camps.

"The native troops who were recruited in haste and then quickly trained, and who were too often committed before being ready, seldom attained the desirable degree of competence, even at the cost of high combat losses. Weapons familiarization and range firing, which are the basic elements required to develop the confidence of the soldier in himself and his teammates, could never receive full attention because time was not available, and because there were no ranges in the garrison areas. For these same reasons, hand to hand combat training was never satisfactory. Lack of time also prevented detailed study of night operations and comprehensive training in small unit tactics.

"While the Viet Minh infantry continued to progress to the point where, on its home grounds, it could be considered as first rate, ours, on the contrary, became less effective for the reasons cited above. The superiority complex which characterized paratroopers in the early days was gradually replaced, in the years 1952-1953, by a more subtle appreciation of their own merits and those of the enemy."

The foregoing emphatic critique tends to obscure the fact that our paratroop units remained excellent infantry despite some lessening of their effectiveness, and did constitute the best possible reserve available to the Commander in Chief as the regular infantry battalions underwent a gradual reduction in their combat capabilities. It is for this reason
that airborne units were used whenever there was need to restore a situation or make an intense effort, or simply when the presence of alert and well commanded troops provided a greater hope for success.

The High Command was constantly being asked to commit paratroop units. This was almost inevitable since there was always a shortage of personnel and an even greater shortage of trained combat troops. This explains why airborne forces frequently participated in regular ground operations. Already in 1950, the commander of the airborne forces had voiced his concern over this situation as follows: "The High Command must guard against an excessive use of airborne forces in ground operations that can be undertaken by other units, if it wishes to retain in its paratroop units the potential which is indispensable for airborne operations."  

Four years later, the commander of the airborne forces repeated this same theme: "While admitting that it would have been too costly to maintain approximately ten paratroop battalions solely for airborne operations, it would have been more reasonable to reduce this figure and increase the number of regular infantry battalions."

A company commander is even more critical: "It is as illogical to use the paratroopers of an airborne division to carry out an encirclement here, or reinforce a sector there, or conduct a sweep somewhere else, as it would be to take the tanks out of an armored division and assign them to several infantry divisions to support the infantry or to serve as pillboxes in some defensive position. The significant difference in this situation is that no one has thought of using armored division tanks in this fashion."  

Unfortunately, the demands of combat were such that not only were paratroops often required to fight as simple infantrymen, but the airborne operations themselves were also often fragmented or

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1 It should be noted that the same thing had happened in the 1940-1945 war. The Germans were forced quite early to use their parachute units as regular ground forces, and the Anglo-Saxons required their airborne divisions to hold certain sectors of the front.

2 Captain X, commanding a parachute unit.
small scale affairs instead of major engagements. In the course of
the war, there were some 150 jumps made, which can be classed as
follows: 52 operations associated with commando actions, 63 opera-
tions to reinforce or assist in the disengagement of garrisons, 33
operations for miscellaneous reasons, involving the search and clear
or the sweep of a region being carried out by ground columns, and
5 operations that were independent actions of major importance.

The section devoted to commando actions contains information
acquired in this area, and drops made to reinforce\(^1\) or assist in the
disengagement of a post\(^2\) have been discussed in connection with the
control of axes of communications.

It may be useful at this point to mention the different views
on doctrine which have been the subject of intense discussion
between the cadres of airborne units since 1945. One basic issue
was whether it was preferable to undertake commando type operations
and ask the paratroops to operate only in small detachments to
carry out raids and surprise attacks, as was the case with the
British Special Air Service (SAS) units,\(^3\) or whether on the contrary

\(^1\) Aside from the skill required to drop personnel in a post some
50 x 50 m sq which is under attack, and aside from the risks
involved (in 1946 in Cochinchina one squad suffered six casualties
while still in the air during a drop), there is little to be learned
from operations which consist essentially of moving through the air
those elements which cannot be moved overland, as was done on a large
scale at Dien Bien Phu.

\(^2\) Disengagement operations as such were rare. They involved dropping
forces on the enemy rear to cut his line of communications (as
was done at Nghia Lo in 1952) or dropping forces directly upon the
enemy (as was done at Nghia Do in February 1950 and Dong Khi in May
1950). These last two operations involved the most risk, but they
succeeded because at Nghia Do it was possible to gain control from
the very beginning of a commanding piece of terrain, and at Dong Khi
the Viet Minh had already taken the post and were departing the area
with the garrison and its equipment, after noting that their AAA fire
was unable to stop the drop despite its intensity and effectiveness.
Such operations can only be undertaken if strong air action has truly
neutralized the drop zone, and if the post being assisted can cover
by fire the regroupment of the paratroops. In fact, the only proper
action is the drop on enemy rear areas.
the airborne forces should operate in their normal formations within the framework of a major force, and carry out the classic task of seizing critical areas, pending the linkup with columns coming overland.

The first alternative responded to the desire to continually harass the enemy, and thus appeared well suited to a war without front. The second alternative was, however, more suited to the execution of the encirclement operations which were considered possible. As events were to prove, both points of view were supported.

In the early years of the war, the lack of transport aircraft forced the airborne troops to carry out operations involving only a few personnel. By the same token, the relative weakness of the Viet Minh permitted small commando type actions. However, beginning in 1951, the High Command organized the Mixed Airborne Commando Group (G.C.M.A.) to carry on the guerrilla war in the enemy's rear. At the same time, the organization of the units themselves revealed a departure from the commando concept. In 1946, the parachute battalion included only Frenchmen and was based upon the Special Air Service Organization with 60 to 70 jeeps armed with three machine guns. By the end of the war these same battalions resembled the regular ground infantry battalions (four rifle companies) and some 50 percent of their personnel were natives. This organizational evolution did not, however, prevent such units from carrying out commando type raids. Indeed, one of the last operations of the war, and one of the most rewarding, was just such a powerful raid on enemy logistic installations.

Operation HIRONDELLE, which the airborne forces listed among the five major operations of the war since it involved the use of three airborne battalions, had all the characteristics of a commando raid scaled to the requirements of a war in which the enemy potential had

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1 This is the reason why there were 28 commando operations in 1948-1949 and only three in 1953. Admittedly, in 1952, there were nine airborne raids in Cochinchina and Laos.

2 See Section on unconventional operations.
grown to the point where it was no longer possible to attack one of his supply areas without committing major forces. HIRONDELLE also reveals that it is better to hit a number of well reconnoitered targets with several battalions than to use one company (or even a platoon) to sabotage a small installation which often was not properly identified.

AIRBORNE OPERATIONS AND THE WAR WITHOUT FRONT

All that has been said about operations in Indochina, whether it was a question of our area control activities, of our offensive sallies into areas controlled by the Viet Minh, or of our operations in remote areas, reveal that the absence of a front coupled with the flexibility of the enemy tended to invalidate the concept of the vertical envelopment, this being the essential element of intervention through the third dimension.

There remains, nevertheless, the seizure of objectives for denial purposes towards which our forces were attracted; three large scale airborne operations were for no other purpose:

- LEA, carried out on October 7, 1947, aimed at gaining simultaneous control of Bac Khan, Cao Bang and Cao Din to Cao Moi to reopen the road to forces which were intended to reestablish our presence in the hill region of Tonkin.

- LOTUS was launched November 14, 1951, to occupy Hoa Binh as we went over to the offensive in Muong country.

- MARION permitted us to quickly seize Phu Doan on November 8, 1952, as the prelude to Operation LORRAINE.

Each time we witnessed the enemy fade away after only a short engagement. In fact, the normal airborne type of operation never did begin because its requirements were never met. The enemy could not be fixed from the front while he was being enveloped from the rear because there was no front, and the enemy was never being pressed by other ground forces at the time when the paratroops were landing somewhere in his rear. Moreover, since the enemy was not tied to a supply line, it was easy for him to disappear.
A fourth major operation was carried out successfully by our airborne forces. This was CASTOR, which took place November 20, 21, and 23, 1953, and gave us control over the basin of Dien Bien Phu. This operation was intended solely to permit the rapid development of an air-supplied ground base, this being the concept underlying our operations in remote areas. The fundamental object was to use this to attract the enemy's attention, and thus cause him to undertake actions which would lead to his destruction. The initial airborne operations were thus to pave the way for the air landing of other forces. In this respect, the airborne phase resembled the three preceding operations. It was not a direct action against the enemy rear.

One can therefore understand the disillusionment of our paratroop commanders who waited in vain for the opportunity to undertake the sort of operations for which the airborne forces were conceived. This discontent becomes readily apparent in the report on operations of the airborne forces in Indochina: "By utilizing all of the physical and moral resources with which they were endowed by virtue of their selectivity, the paratroops in Indochina were, day after day, during nine years of work, suffering, and heroism, able to accomplish a major task. Their regrets at not having done more even at the price of more bloody sacrifices, and their bitterness because of the limited results obtained despite great effort and hardship, were compensated for in part by the knowledge that they had done their duty."

One is somewhat reluctant to share another judgment expressed in this same document: "While airborne operations were numerous, they were not always well conceived. It would have been better if some had not been undertaken at all, or had been replaced by ground operations."

We are aware of the fact that the absence of any front made it impossible to carry out airborne operations in their classic form,

1 See Section X.
and one can only speculate as to whether airborne operations could have had any other form. This certainly was not possible as long as the enemy continued guerrilla warfare and his logistics were intangible. On the other hand, once Chinese aid increased, logistical installations, critical areas, and motor convoys comparable to those of European armies appeared. It then became possible to undertake operations such as MARION and HIRONDELLE. This view was shared by the commander of the airborne forces as follows: "Operations of the type of Phu Doan (1952) or of Langson (July 1953) apparently could more often have been undertaken at the opportune moment in zones where there were enemy supply depots and lines of communications.... The depots of Yen Bay, Provincial Road No. 41, the communications center of Tranh Son, the region of Nha Nam, and Thai Nguyen, to cite only some examples, could have been considered as prime objectives at certain specific periods...."\(^1\)\(^2\) Certainly the execution of such raids would not have been too difficult, but it must be emphasized that the return of paratroop units into the delta would have been quite risky.

The commander of the airborne forces also looked to operations along the coast: "It is regrettable perhaps that operations such as that of Cap Falaise in 1949 or of Qui Nhon in 1953 were not planned and carried out more often. All ports along the coast under Viet Minh control could thus have been permanently threatened by joint operations...."\(^1\) Such surprise attacks could not have produced any immediate results, for the Viet Minh received only a minute quantity of their supplies by sea. Nevertheless, the systematic destruction of small boats would have been a serious blow to the fishing activities which were an essential element of the local economy.

\(^1\) Report of the Commander, Airborne Forces.

\(^2\) Unfortunately these possibilities became apparent during the first six months of 1954 when the battle of Dien Bien Phu and operations in Laos required the support of the whole of our transport aviation.
When the battle of Dien Bien Phu began, the possibility of operations against enemy communications became attractive because major enemy forces became encumbered with artillery and trucks and began to make their appearance as columns on the roads. They thus ceased to be invulnerable. These division had certainly not abandoned their customary fluidity, but, as they moved towards Dien Bien Phu, their supplies and vehicles became dependent upon Provincial Road No. 41. Thus, the commander of the airborne forces wondered if "an airborne operation coordinated with operations of commandos and the Mobile Intervention Group (G.M.I.)\(^1\) against the enemy's communications would not have been particularly valuable, since the few roads were vulnerable, and appeared as critical areas which were almost impossible to bypass...."\(^2\)

Such an operation was, in fact, contemplated. However, the paucity of air transport did not permit it to be undertaken, and it is therefore impossible to judge whether such an operation on the enemy rear could have yielded the same results as one could expect in a European war. In sum, the war ended before there was any opportunity to use airborne forces in accordance with European doctrine. This may explain why the airborne forces were never to become a major trump in the hands of the High Command. They were indeed an element of many tactical operations, but they never found the conditions needed for their strategic employment because the rules were different than they had been during World War II.

The general discontent felt by the paratroop units' commanders is thus explained on a psychological basis, and one can understand why their commander would write the day after the battle of Dien Bien Phu, "With regard to their employment, it has once again been proven that airborne units, as the final strategic reserve of the High Command, become fully effective only when they are used en masse

\(^{1}\) Successor to the G.C.M.A.

\(^{2}\) Report of the commander of the airborne forces.
and can attain surprise. To use them as ground troops because they are in fact the best infantry in the Expeditionary Corps is a waste of highly specialized personnel...."

A comparison between these expressions of disenchantment by dedicated troops with those made by cavalry commanders after the first engagements of 1914 and the long months of trench warfare, can scarcely be avoided. As things turned out, they did manage to serve as cavalry during the last days of that conflict, but it was not until 1939-1940 that they assumed a major tactical role, and even this was under a different guise.

Throughout the campaign of Indochina the parachutist was required to serve as a commando only on occasion, but he was always expected to be an excellent infantryman.

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Translator's Notes

A demi-brigade is a tactical grouping of three separate battalions of infantry. The basic difference between a demi-brigade and a regiment is thus in the administrative control of the infantry units.

The basic British SAS unit was that of a light infantry battalion whose subordinate elements were capable of independent action for varying periods of time. The smallest independent unit was the squad. The French adaptation was a battalion of three companies, each with two platoons of three squads. The platoons were called "commandos" and consisted of five officers and 45 men. The squads, consisting of one officer and 11 men, were called "sticks." The Colonial Army's Commando Parachute Battalions in Indochina were so organized.
XX. ARMORED FORCES

The armored forces in Indochina were initially organized as were the comparable units in France. However, in the course of nine years of war a number of changes were to appear as equipment arrived (armored, amphibious, and service vehicles). It should be noted, nevertheless, that by the end of the war the majority of the armored forces still had vehicles inherited from the campaigns in France and Germany, and their organizational structure remained essentially responsive to European tactics. Accordingly, there is little new to be learned from the employment of armored forces in Indochina. The one exception is the amphibious units, which underwent a novel experience in Indochina and were therefore able to evolve their own doctrine.

The armored forces had to overcome a number of unique difficulties, since they were initially equipped with materiel which was not of their choosing. They also lacked suitable types of vehicles and often had inadequate maintenance facilities.

From the point of view of armor, the terrain of Indochina is characterized by vast expanses crossed by a few narrow roads that are not trafficable by the normal military vehicles, and are seldom suited to tanks. The improvement of the road net would have facilitated armored operations, but this was still a long way from being accomplished when the war ended. The traffic capacity of the deltas, in particular, was highly variable, and depended on the area and the season.

A tank company commander commented on the fact that "going maps" for armor had not been prepared, and wrote: "The seasonal changes in Tonkin are generally well known. It would thus be possible to prepare terrain maps showing, for each month, areas which are accessible to armor and the location of specific choke points."

The fact is that armored vehicles most often lacked roads and maneuver space because the so-called "cross country" capabilities in the European sense of the term did not always apply in Indochina. In
addition, the high heat and humidity made it extremely difficult to fight in "buttoned-up" armored vehicles. Armored forces also faced the same personnel shortages as the other branches, and eventually had to rely upon local recruiting.

One of the difficulties in using native personnel was that these people were small, lacked strength, and were often incapable of handling heavy equipment. The chief of the armored forces thus suggested an increase in Legion units to compensate for this shortage of qualified personnel: "The materiel of the armored forces is complex and breaks down easily, and the training required of its personnel is both long and costly; if there is a branch in the army that needs professional troops it is the armored forces.... The Legionnaire is particularly well suited to take his place in the armored forces. It would thus seem appropriate for armored forces to have significant representation within the Foreign Legion."¹

The sum total of these problems meant that all the efforts to improve the armored forces could only be applied to certain combat techniques and to the internal organization of armored units.

EMPLOYMENT

Armored forces missions were essentially the traditional ones of cavalry with certain variations. They served

- As covering forces for infantry on the move or in position
- As reconnaissance units (the opening of roads, reconnaissance of villages, liaison with isolated posts)
- As escorts (for convoys or route security detachments)
- For combat in support of infantry (participating in envelopments, attacks, counterattacks, and covering withdrawals)
- For pursuits and raids (seldom done and then only at short ranges).

¹"The opposite is actually true. The ratio of armored units is actually less in the Legion than it is in the rest of the Corps; two tank battalions to six infantry regiments in the Legion." (Lieutenant Colonel X, task force commander.)
The accomplishment of the foregoing types of missions against an enemy who excelled in ambush tactics, and who did not hesitate to attack tanks, required substantial numbers of accompanying infantry. "In the deltas that literally consumed sizeable numbers of infantry because of the large villages which were inaccessible to tanks, as in the jungles at the higher altitudes, armored formations required significant infantry elements to support, sustain, and extend the radius of action of the armored vehicles."  

The lack of personnel made it impracticable for the High Command to assign to the tank battalions their own infantry formations, particularly since the infantry would not be used while the armored units were being refitted or were involved in maintenance activities. At the same time, the infantry units that worked with armor were often rotated and continued to display the deliberate but slow tempo of operations which is their characteristic. The cohesiveness of the task forces formed under these circumstances consequently suffered, as did the flexibility and rapidity of their operations. "The fact was that once an operation began, it was pursued at the relatively slow cadence of infantry, and thus appeared in the classic form, familiar since 1918, of infantry combat supported by tanks."  

Moreover, the monotony of operations continually being repeated over the same terrain, together with the long waiting periods associated with safeguarding communications and the dispersed nature of the threat, contributed to the development of an attitude of complacency which led to the static employment of armored units and to their fragmentation.

This fragmentation was often carried out to an extreme, in part because the resources available were inadequate, and in part because of the multiple requests from area commanders at all echelons. This situation adversely affected the effectiveness of the units and caused

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1Lieutenant Colonel X, commander of an armored unit.
a high rate of wear on the equipment, which the services of the battalion or company could not compensate for, since they were not organized to support so many widely dispersed detachments. ¹

Nevertheless, "it was considered normal to rely heavily upon a branch which, thanks to the internal combustion engine, could marry mobility and firepower, and was thus most suited for reconnaissance, for rapid reaction, and for the pursuit as well as for the counter-attack, as cavalry had been heretofore."²

It was not until 1951 that the first attempts were made to form armored task forces with their own infantry. Until then, "the tank companies had been useful but had only been used occasionally because they were organized primarily as pools of armored vehicles, rather than as units capable of engaging in combat by themselves."¹

Towards the end of the war, armored forces were organized as follows: as armored (and amphibious) task forces capable of maneuvering and engaging in combat alone, and as units capable of supporting certain infantry formations on a temporary basis or of meeting the usual requirements of area commanders. ³ This basic organization should have included an armored force commander at the Territorial Command level. This would have helped resolve a multitude of difficulties.

ORGANIZATION OF ARMORED TASK FORCES

These formations, created at the end of 1953, consisted basically of one company of M-24 tanks, and three motorized infantry companies on 2½ ton trucks. There was also one infantry company on half-tracks, one mortar platoon, and a headquarters with ample signal communications communications

¹Experience revealed that the company was the smallest unit which could support itself.
²Lieutenant Colonel X, armored task force commander.
³In North Vietnam all armored forces belonged to the general reserve and could thus be assigned to a sector commander on a temporary basis. In the other territories, armored units were assigned directly to the territorial commanders.
so that it could control significant reinforcements (engineers, infantry battalions, etc.). "The ratio of one battalion of mounted infantry to one company of tanks made of this formation a well balanced force which was both flexible and powerful."  

The M-24 tank company could maneuver easily over dry rice fields and even, on occasion, over the wet paddies. It could not, however, penetrate into the villages, because of the many small canals and heavy cover. Further, the flat trajectories of the tank guns also meant that shells with "super-quick" fuses exploded on impact with the first bamboo hedge. There was also unanimous agreement that it was most unfortunate that the vehicles for the mounted troops were not comparable in performance to the tanks. This would have permitted, among other things, improved means for supply and evacuation.

The organization of the tank company into four subordinate units was well suited to the requirements of a war without front wherein the direction of attack was often difficult to determine. The organization of the platoon with four tanks was also satisfactory, since any further breakdown into two sections was infrequent and was, in any event, carried out within line of sight. The tank platoons would have benefitted from the support of self-propelled high-angle-fire weapons. The organization of a self-propelled howitzer unit to replace the mortar platoon of the armored task force was recommended. Moreover, the operations of the tank company at Dien Bien Phu (1st Chasseurs) revealed the vulnerability of light tanks to enemy artillery fire and the difficulties of ammunition resupply when under fire. "Despite the

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1 No tankdozers existed in Indochina. The use of a bulldozer on a trailer was thus a heavy burden for the task force, when, of course, one was available.

2 "Lessons Learned in the Indochina War," as reported by the armored force commander.

3 The Tables of Organization provided for three platoons of five tanks each, plus two command tanks. However, the normal organization was four platoons each, with four tanks and one command tank, although a second would have been welcome.

4 By the Armored Forces Command.
effort to protect tanks by revetting them, the tank company sustained casualties from enemy artillery fire incident to resupply and maintenance activities. These casualties were comparable to those sustained in combat. Since they were committed solely against infantry, the tanks quickly exhausted their ammunition."

A number of field expedients were quickly tried. These included carrying additional ammunition outside the tank, and the assignment of one tank per platoon as a resupply vehicle. What would have been desirable was to have one armored supply vehicle per platoon.

The mounted companies (on truck or half-track) were organized as regular infantry companies. They included four platoons (38 men and 2 automatic rifles each), plus one support platoon (2 light machine guns and 2 60-mm mortars). The armament of this last platoon was the subject of much debate since it did not complement that of the tanks. Thus the Armored Forces Command recommended for the end of 1954 the allocation of one 57-mm recoilless rifle and two mortars, either 60-mm or 81-mm, depending upon whether the troops were mounted in 2½ ton trucks or half-tracks.¹

The company mounted on half-tracks was relatively slow and cumbersome and lacked mobility. Moreover, the requirement to guard the vehicles reduced the personnel available for combat to about 100 men. Nevertheless, because of its organic firepower (36 machine guns and automatic rifles, with three units of fire) it was well suited for providing security for roads, and for escort and liaison duties. It could also serve, when the terrain permitted, for envelopments. However, in this latter case, it was handicapped by its general inability to operate off roads.

The headquarters and service company was always drawn in two opposing directions: that of providing security for the rear base, and that of going forward as the command post. Its mission would therefore

¹The armored command also emphasized that the adoption of the quadrilateral organization should have included an increase of communications equipment (7 sets of ANPRC 10 radios rather than 5 sets).
have been facilitated had it been made up of two elements, each with its commander: one base element, and one combat element.\(^1\) Finally, the security platoon,\(^2\) which was supposed to carry out liaison and escort missions and provide command post security, was obviously undermanned.\(^3\)

**AMPHIBIAN VEHICLE FORMATIONS**

Utilizing equipment, some conceived for cold weather operations in Alaska ("crabs") and some derived from rescue vehicles used in flooded areas of the Mississippi ("alligators"),\(^4\) the amphibian vehicle task forces proved themselves well suited to combat operations in the flooded areas of Indochina, i.e., in the deltas or coastal zones.\(^5\)

The eventual organization of these formations followed a period of trial and error which was not always successful; indeed, some of the early operations were failures. Initially only the "crabs" were used. "They were too few and were handled by poorly qualified personnel. They thus quickly sowed the Plain of Reeds with their burned out hulls."\(^6\) Despite this criticism, in 1948 in South Vietnam one battalion of two "crab" companies was organized.\(^6\) These "crabs" were employed as complete units. They were manned by trained personnel, had adequate maintenance equipment, and "they ranged over the

\(^{1}\) Some commanders even argued for the organization of two separate companies.

\(^{2}\) Two half-tracks.

\(^{3}\) Three armored cars and three scout cars were recommended.

\(^{4}\) The "crabs" were officially designated cargo carrier 29C, and the "alligators" were LVT4 or 4A.

\(^{5}\) Report, Commander, Army Forces, South Vietnam.

\(^{6}\) In the 1st Legion Cavalry Regiment.
Plain of Reeds sowing confusion in the ranks of the enemy.\textsuperscript{1} The results were so encouraging that two additional companies were organized in Cochinchina and in Tonkin.\textsuperscript{2}

"One of the earliest problems was that of supporting infantry. The companies would receive long-range reconnaissance missions and the regular infantry either could not follow or could not keep up."\textsuperscript{1} The assignment of one platoon of infantry to each "crab" company did not produce satisfactory results. The personnel thus made available was inadequate, and the increased load for the vehicles reduced their mobility. The next step was to use new vehicles, the "alligators." These were initially assigned as one platoon (carrying a native commando) per "crab" company. This idea worked and provided the basis for the eventual organization of the amphibian vehicle task forces. In 1954 an amphibian vehicle group included

- Two "crab" companies used for scouting, envelopments, and pursuit.
- Three infantry companies mounted in LVT's, providing the element of maneuver.
- One platoon of six LVT(A)(4)'s for fire support.\textsuperscript{8}

Two tactical command headquarters with ample communications equipment provided the capability of further task organizing the command as required.

The versatility of this formation was due both to its independence of road nets and to its firepower, which was comparable to a European combat command. It was a force well suited to deep penetrations in insecure areas, since it included three mounted companies (130 men each), three days of supply, and adequate signal equipment. Its weakness lay in its vehicles, which could not operate on roads,\textsuperscript{4} and

\textsuperscript{1} Report, Commander, Army Forces, South Vietnam.
\textsuperscript{2} In the 1st Legion Cavalry Regiment and in the 1st Chasseur Regiment.
\textsuperscript{3} The "crabs" had to be transported on 2\frac{1}{2} ton trucks and the "alligators" on tank transporters. Boats could be used as appropriate.
which required frequent maintenance. 1

The "crab" company included 33 "crabs" and was organized into three platoons. Its flexibility, the relative quietness of its vehicles, and its heavy firepower (30 machine guns or automatic rifles, six 57-mm recoilless rifles, and three 60-mm mortars) compensated for its lack of armor and made this company well suited to achieving surprise. This led one commander to state, "Unarmored vehicles that are immune to obstacles are more effective than armored vehicles with limited mobility."

The LVT company was organized into three combat platoons and one support platoon. "With its 11 amphibian vehicles (36 machine guns of .30 and .50 cal, and three 75-mm howitzers) and three platoons of mounted infantry, it alone formed a small combat command." 2 Reference to such a formation could thus be made in the following terms: "It is the only known unit which combines a company of infantry with its transport and its supporting armor. In no other organization is the relationship between infantry and armor as intimate or as permanent. The LVT companies and the howitzer platoons are the only units which, in an assault landing, can participate initially in the seizure of a beach head." 1

Two commanders suggested a novel combat technique: "An ideal maneuver would be one where the amphibian vehicle group could link up with paratroops or heliborne infantry once the enemy was located and fixed." This same concept could also be used for mounted infantry elements within the subordinate commands: "In truly difficult terrain the helicopter is the ideal means of transportation because it can ignore obstacles and has no fear of mines. One can thus look to the

1 Thanks to extreme efforts on the part of the maintenance personnel these were never unavailable for more than two days out of every five." (Lieutenant Colonel X, commanding an amphibious vehicle group.)

2 Lieutenant Colonel X, group commander.
time when mounted infantry will routinely have such aircraft available to use as needed."

The amphibian vehicle groups were also used at night, as one of their commanders reported: "During a few minutes on a moonlit night, a company of "crabs" inflicted 500 to 600 casualties on an enemy force caught in the open (120 dead were counted on the ground)." Another commander added: "Despite the difficulties attendant upon maintaining an encirclement at night in rice fields, when this is properly done the regular Viet Minh units become discouraged and will permit themselves to be destroyed the next morning (as often happened), or will surrender (Tho Lao, May 17, 1952)."

The most important thing is to avoid committing an amphibian vehicle group in terrain for which it is not suited. This is a fine point which requires considerable command experience, for terrain suited to "crabs" is not necessarily suited to "alligators," and vice versa. The ability of the force to maneuver will thus be involved, and when amphibian vehicles are to be used in an operation, it is essential that the commander of such a unit be consulted during the planning."

As a general comment, it must be acknowledged that there were few commanders of territories, zones, or operations who used the amphibian vehicle groups properly and knew how to avoid employing them simply as floating supporting armor. The most effective employment of these units is obtained when they are assigned cavalry type missions.

ARMORED FORCES RIVER UNITS

These were another expression of the desire to make maximum use of existing transportation means. In the course of the war these units received a variety of material, some armored and some not. Towards the end they almost all had patrol boats of 8 to 11 m. Their missions on the water were comparable to those carried out by ground units along the roads (opening, escort, liaison, supply, encirclement, etc.). One

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1See the section on river forces.
unit commander reported that they had contributed to the pacification effort: "We were able to increase our night operations, which forced the Viet to keep alert 24 hours a day. As a consequence of this insecurity we received many ralliers."¹

**RECONNAISSANCE COMPANY GROUPS**

These were composed of an M-24 tank company and a headquarters² which, for a given operation, would also control an infantry element, usually of battalion size. Such units were made available to sector commanders for area control type operations.

**RECONNAISSANCE UNITS (ARMORED CARS)**

These units were most often used as Platoons, or occasionally as companies in support of territorial commands, primarily for road opening operations, escort duties, and for road or command post security tasks. Their experience once again confirmed the inadvisability of having patrols equipped with vehicles of different capabilities (armored cars and half-tracks). It also confirmed the need for mounted infantry and supporting artillery (75-mm self-propelled) as part of the same platoon.³ There were also advocates of reconnaissance units made up of two Platoons of armored cars and two Platoons of mounted infantry, all within one company command.⁴ While recognizing the services rendered by this obsolete equipment, the users of these units regretted the fact that they were not well suited to a variety of terrain conditions, that they lacked certain mechanical refinements,⁵ and that they had only a small cannon.... Many hoped that the EBR would receive its baptism of fire in Indochina.⁶

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¹Lieutenant X, commanding a patrol boat company.
²On occasion these units also might have one or two companies of auxiliaries trained to work with armor.
³A company of auxiliary troops would often be assigned to an armored car company.
⁴The organization of the platoon into three patrols, each with two vehicles, proved satisfactory.
THE M-36 TANK DESTROYER BATTALION

This battalion was organized at the end of 1953 in anticipation of the appearance of Chinese armor. To meet the requirements of the territorial commanders it was most often broken up into platoons, and only rarely into companies. The M-36 had a cross-country mobility comparable to that of the M-24 tank, and its 90-mm gun permitted highly effective fires, particularly in attacks against fortified villages or against enemy troops at ranges of 3,000 to 4,000 m. Comments previously made concerning the M-24 tank companies are equally applicable to the M-36 tank destroyer companies.

AIR TRANSPORT OF ARMOR

The requirement to deploy armor in remote areas far from all roads led the High Command to look into the possibilities of air transport. The problem was most difficult because the equipment available had not been thought of for such purposes and airlift capabilities were very limited. Our experience in this domain did reveal that this concept was of interest to a country such as France whose responsibilities extended over five continents.

Small armored units were airlifted to Laos where they rendered useful service, and the operations of the tank company lifted into Dien Bien Phu were particularly revealing. This company furnished

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1The tank destroyers were modified by the addition of an overhead on the turret and one machine gun. The radio equipment was also changed.

2The four tank destroyer companies dispersed over the whole of the Tonkin delta were supported with great difficulty because the battalion lacked the escort and liaison facilities to utilize fully its logistic capabilities.

3The air transport of the M-24 tank is particularly striking. The tank was broken down into 82 pieces of which the heaviest, the hull, weighed 4,600 kg. Two Bristols and five C-47's were required for the lift.

4One platoon of five M-24 tanks at Luang Prabang and one company of tanks (M-5 and M-8) in the Plain of Jars.

5This company included three platoons of three M-24 tanks each and one command tank. One platoon placed within the stronghold of Isabelle was quickly separated from the remainder of the company.
the commander with continuing information, during the preparatory phase, of the extent of free area between our positions and the foremost ones organized by the enemy." Following this, "the tanks were the shock element in all operations." 1

It should be added that air transport of armored units also involves the lift of related maintenance facilities and supplies and these last represent considerable tonnages which quickly exceed that of the armored vehicles themselves. 2 By virtue of an intensive logistic effort, the tank company at Dien Bien Phu still had six tanks available on May 7. Two others were being used as fixed pillboxes, and one was inoperative. Only one had been destroyed. 3

**ANTITANK OPERATIONS**

Antitank warfare in Indochina "proved that even without conventional antitank weapons, and with only the most rudimentary of means, particularly the use of mines and explosives, one can obtain significant results as long as one is prepared to act with tenacity, courage, and ingenuity, and carry on the struggle over the whole of the land." 4

Mines were the greatest danger, as indicated by the number of armored vehicles lost to them (85 percent of the total). The variety

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1 Report on operations of the M-24 tanks during the battle of Dien Bien Phu.

2 For example, Dien Bien Phu was supplied with 200,000 rounds of 75-mm gun ammunition from December 7 to May 7, this representing eight times the weight of the tanks.

3 All tanks were without exception rendered inoperable on May 7. Sighting equipment, small arms, and radio equipment were broken or thrown in the water. The gun breech blocks were removed and buried, and the tubes were burned with incendiary grenades. Instruments, generators, carburetors, and filters were destroyed with sledge and several explosive grenades were detonated in the engine compartments. The participation of one of these tanks in the victory parade can only be explained as a result of cannibalizing enough parts from all the tanks to get one engine running. In any event, there was no question that either its turret or armament could be used (report on operations of the M-24 tanks during the battle of Dien Bien Phu).

4 "Lessons Learned in the Indochina War," report of the armored forces.
of these devices was extremely great, for any explosive container or projectile could be made into a mine by the enemy. The fuses also varied greatly, but pressure fuses or command detonated devices were most frequently encountered. In the face of these threats our detection devices appeared inadequate, and a tank company commander referred to tanks as "jumping vehicles."

Portable antitank weapons (75-mm and 57-mm recoilless rifles, S.K.Z. rocket launchers, and the bazookas) constituted the second most important class of weapons from the view of losses (about 8 percent of armored vehicles destroyed). Once a vehicle was immobilized, the enemy would attack it with explosive charges, bottles of gasoline, etc. Obstacles were also used along roads and dikes, usually where they could not be bypassed. The Viet Minh used a variety of devices: earthen walls, deep ditches, tank traps, etc. Most often the obstacles were used in conjunction with mines and antipersonnel booby traps.

The technical measures used to counter these threats varied: regular maintenance of roads, added armor in the lower parts of vehicles, laying of antimiante matting and rolls of rubber filled with sand over planking, makeshift reversing devices for the armored cars, the use of barbed wire outside the armor to keep people off the vehicles, the use of fagoting to cause premature detonation of shaped charges, etc. None of these measures was new, and all served their purpose, except for the last two, which proved to be more of an inconvenience than anything worthwhile.

The tactical countermeasures used were also quite conventional: echeloning of the formations in depth, and the use of mounted infantry support. In addition, good results were obtained by using patrols, laying harassing fires at night over sections of roads most often mined, or even placing mines on the approaches to frequently mined points. Lastly, in the case of a direct assault on the vehicles, the

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1 Only the measures actually used in the course of the war are discussed here.

2 The use of grills to protect open vehicles against grenades was based on the same idea.
use of canisters, grenades, or the small arms of the crew, and the rapid rotation of the turret usually permitted an effective defense.

NIGHT ARMORED OPERATIONS

Armor was infrequently used at night and then only when necessary. Attacks against bivouacs and vehicle parks caused heavy losses whenever the vehicles were not properly covered by infantry fires or when they were kept immobile. On the other hand, when armor counterattacked under these circumstances, its intervention was usually decisive. This was the case in "the attack launched against the No. 3 Armored Command at Tien Khe (Tonkin) on July 18, 1954, when the Viet Minh left 200 dead on the field (20 of whom were demolitions personnel with explosive charges), and numerous weapons." 2

The use of armor at night to support posts under attack was also often decisive. "During the month of June 1954, a tank platoon supported by an infantry company burst upon the rear of the Viet Minh companies, attacking a fortified position at one o'clock in the morning. As a result the Viet Minh suffered 19 dead, many wounded, and several weapons lost." 3

However, many people feared such operations. "Night operations are often very costly, and seldom effective. The Viet Minh mined all the approaches to a post about to be attacked, and were thus able to slow, if not stop, by this means the arrival of supporting elements." Others even went so far as to recommend that "all armored operations should be prohibited at night." 4

In any event, night operations did reveal the need to devise means to improve visibility. Substantial assistance was provided by illuminating the battlefield with specially equipped aircraft, and by the use of flare pots, searchlights, and illuminating shells. "Illuminating mortar shells proved very effective. They were particularly

1 The example of the attack of the post at Le Khu reveals the difficulties of providing armor with a close defense at night.
2 Captain X, deputy to the commander of the No. 3 Armored Command.
3 Captain X, commanding an armored car reconnaissance company.
4 Colonel X, commanding a reconnaissance battalion.
useful when tanks were used in counterattacks. For this purpose two 81-mm shells should be fired each minute, timed to illuminate the terrain 400 m in front of the tanks, and on a 600 m front.1

The sighting of turret guns by using a light beam parallel to the tube gave good results.2 On the other hand, the unsatisfactory use of infrared devices mounted on armored vehicles does not provide a suitable basis from which reliable conclusions on this technique can be drawn. In any event "the French army must make every effort to operate at night. This will not be easy since the more man becomes civilized, the less comfortable he is in the dark."3

The armored forces began the war by fragmenting the resources of a few battalions, and ended the war with four armored commands, two amphibian vehicle groups, and two reconnaissance battalions. The High Command thus revealed its appreciation of the need for armored units to fight on their own. However, at the time of the cease-fire this capability was not yet fully realized. Yet, despite the difficulties of the terrain, the dispersed nature of the threat and the ever increasing need to provide support to worn infantry formations caused the High Command to feel an increasing need for armored forces truly capable of carrying our traditional cavalry missions.

1Captain X, commanding the mounted infantry in an armored command.

2The availability on the turret of an automatic weapon protected by a shield to use for close combat also proved useful.

3Lieutenant Colonel X, commander of a tank battalion.

Translator's Notes

aIn U. S. jargon the "crab" was called the "weasel." The "alligator" was used by U. S. forces only in reference to the LVT(1). The model LVT used by the French in Indochina was called the "water buffalo" in the U. S.

bThe LVT(4) had a 75-mm howitzer in a open turret. This turret was the same as that of the U. S. armored car M8.

cFrench armored cars could be driven from either end. This greatly added to maneuverability in tight spots, particularly on narrow roads where U-turns were impracticable or difficult in event of ambush.

dThe EBR was a newly designed armored reconnaissance vehicle mounting a 75-mm gun. The vehicle had two extra wheels with steel ribs that could be lowered on each side to facilitate operations in difficult terrain.
XXI. ARTILLERY

The evolution of a minor police action to full-scale military operations occurs almost imperceptibly. But the curve of this evolution becomes discontinuous at the moment when artillery appears on the scene, for, while this serves to create fear, it also often makes it difficult to identify rebel elements from within peaceful populations. "Once artillery joins in ground warfare, not as would a local constable, but rather as would a riot squad, then the game is quickly compromised, for success...is fundamentally more dependent upon political action than upon firepower."¹

The question arises whether one can do without local constables any more than without riot squads. In any event, artillery was used from the very beginning of the war and quickly became identified as follows:

- Position artillery, either fixed or semimobile
- Field artillery, consisting of artillery battalions assigned to the mobile groups, held in general reserve, or, occasionally, made available to some area commanders

Table 3 which follows reveals the continuous increase in the numbers of pieces, and above all the expenditures of munitions during the last years of the war.

Table 3
Artillery in the Indochina War

<table>
<thead>
<tr>
<th>Year</th>
<th>Pieces</th>
<th>Rounds Expended (105-mm only)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Position</td>
<td>Field</td>
</tr>
<tr>
<td>1951</td>
<td>228</td>
<td>240</td>
</tr>
<tr>
<td>1952</td>
<td>257</td>
<td>258</td>
</tr>
<tr>
<td>1953</td>
<td>285</td>
<td>286</td>
</tr>
<tr>
<td>1954</td>
<td>323</td>
<td>370</td>
</tr>
</tbody>
</table>

¹Colonel X, commanding artillery in North Vietnam.
Artillery thus played a major role, "not so much because of its power, which was exceeded by that of aviation, but because of the continuity of its support, the rapidity with which it could be brought to bear, and the accuracy of its fire."¹ Both position and field artillery shared the privilege of being "the guardian angel of the infantry."

**POSITION ARTILLERY**

From the moment that the rebels were powerful enough to successfully attack fortified positions, "the system of posts which had been organized to cover the lines of communications and provide some security to the population had to have a permanent source of immediate and powerful supporting fire. This was the basis for the assignment of position artillery."² Position artillery dispersed over the whole of the vital areas (North Vietnam, South Vietnam) thus became "evidence of the capability for instant reaction."³

Position artillery had a mission that was "psychological as well as material insofar as both our men and the enemy were concerned,"⁴ for it was able to support all friendly mobile and fixed forces within range, as well as take under fire all enemy elements that showed themselves. This mission was thus both permanent and omnidirectional. The proper employment of artillery also required an artillery command organization to parallel that of the army area command structure. Unfortunately, the lack of personnel, "even in Tonkin, made the organization of sector artillery commands a subject of debate. This is a mistake...for the massing of fire from widely dispersed sections upon the same objective cannot be done quickly or effectively unless there are suitable communications as well as technical command elements."⁵

¹Major commanding artillery battalion in mobile group.
²Colonel Y, commanding artillery in North Vietnam.
³Captain commanding sector artillery in North Vietnam.
⁴Captain Z, staff, artillery command, North Vietnam.
⁵General commanding artillery in Far East ground forces.
The adjustment of fires was accomplished by a variety of means, ranging from use of airborne spotters to use of the infantry NCO, who would call fires as well as he could. The lack of artillery forward observers and the general inadequacy of ground observation did, in fact, often require officers of other branches to adjust fires. It is therefore essential that all unit commanders learn a simple way to do this under all conditions, and particularly that they be able to adjust fires when they are not on the gun target line.

The maneuver of artillery pieces should complement the maneuver of their fires. "Position artillery can be maneuvered...this is somewhat more difficult than in the case of field units, but it can be done."¹ In Indochina, "position artillery was fixed in strong points and not enough thought was given to its displacement, even though, admittedly, its capabilities in this respect were limited."²

The fact was that position artillery included not only "fixed" sections or batteries, but also a number of "semimobile" sections (two guns) which could displace with the minimum means required for a short term mission (three trucks only). Additional trucks could also be made available by the local command. Furthermore, when the resources permitted, a field artillery battalion (105-mm) called a "zone battalion" was assigned to some territorial subdivisions in North Vietnam. This battalion was to remain mobile, was never to be permanently positioned, and was to retain its organizational integrity if at all possible.

The defensive positions had to lend themselves to the maneuver of artillery, and for this purpose they had to have:

- Relatively easy approaches
- Accommodations for at least an additional section within the position (an emplacement that was completely equipped)

¹Captain Z, staff, artillery command, North Vietnam.
²General commanding artillery in Far East ground forces.
A prepared position towards the edge of the defensive area which could take a field artillery battalion. These requirements could not always be met in the rice field areas. But it is just in such terrain that these factors must be considered before the initial deployment of position artillery; otherwise its subsequent displacement will be far more difficult.

The deployment of available resources always raises the well known dilemma: is it better to disperse the artillery as separate pieces to cover more area, or should one sacrifice certain areas in order to keep the sections together? This latter solution will always be preferable because, "while a single piece may serve when the only requirement is simply the effect of its presence, a battery is needed once one has a fire mission. This can be reduced to a two-gun section when such an economy becomes indispensable."\(^2\)

In addition, the timeliness and accuracy of artillery fires are closely related to the competence of the artillery commanders. One cannot expect the same degree of competence from a section leader as from a battery commander. "If the command structure is not qualitatively and quantitatively adequate, it will seldom be possible to obtain timely and accurate artillery support. The single piece, much less than the two-gun section, can only achieve a psychological effect without doing much material damage."\(^2\)

Notwithstanding the above, single pieces and two-gun sections were long deployed to provide a degree of moral support to forces in defensive positions. However, the growing subversion of the delta eventually required a regrouping. This was done in 1953. As a consequence, a number of positions were no longer well supported, and these felt that they were being abandoned at the very moment when the enemy was becoming stronger. Some of these positions were in fact successfully attacked by the Viet Minh (as was the case at La Tien in

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1 Captain, staff, artillery command, North Vietnam.

2 Colonel X, commanding the artillery in North Vietnam.
February 1954). The regrouping of artillery should have involved a similar regroupment of defensive formations and the abandonment of certain posts.

The personnel available to the battery commanders were always inadequate because not only were the authorized allowances insufficient, but they were never met. As a result:

- Communications personnel were overworked (and there never were enough)
- It was impossible to man observation posts continuously
- Artillery liaison personnel were not available for assignment to sector forces for small scale search operations

The position artillery initially included a variety of types and models. To equip these units we had "to make do with whatever was at hand,"¹ hence the appearance of a motley collection of guns (75-mm Model 1897, 25-pounders, 105-mm, Models 1934 and 1935). Moreover, in the early years the units were always hoping in vain for adequate supplies of munitions. These were the days "when a cannon without friend or family was rationed to 30 rounds per month."²

Towards the end of the war, however, most of the batteries were equipped with:

- Either the 105-mm HM2, whose range was limited (10,000 m), and whose split trail required that it be mounted on a circular base for all around fire
- Or, the 105-mm Long 1936, with a satisfactory range (14,500 m), but whose dispersal at maximum range restricted its utility. This gun was also too heavy, not flexible even with a circular base, and its ammunition was closely rationed.

The artillerymen would have preferred a single type of piece capable of all-around fire not only for ease of laying but also to reduce the size of the emplacements. Greater range would also have

¹Lieutenant commanding a position artillery battery.
²P. Dannoud, __The Dead War__. 
been desirable (an increase of 1,000 m at 11,000 m means an increase of 72,000 sq m in area covered).

Numerous officers also questioned, "Why were not modern French armaments such as the 105-mm ABS tried out in Indochina where its range and all-around-fire capability would have been highly valuable?"\(^1\) Other officers recommended that a study be undertaken to provide artillery with the aforementioned characteristics which would also have an overhead shield in the form of a turret or panels of armor. To do this would, of course, have meant developing specialized position artillery whose limitations are well known. Nevertheless, its potential under the circumstances might well have justified the effort.

The defense of position artillery was inherent in the defense of the post wherein it was emplaced. It happened on occasion that such a post would be commanded by an infantry officer, or even by an NCO, junior in rank to the artillery unit commander. It would appear desirable that "the artillery which constitutes the primary objective of the enemy be charged with its own defense and therefore command the whole."\(^1\) Nevertheless, it must be recalled that "artillery is protected by artillery; position artillery is not a battery or a section, but two batteries or two sections capable of providing one another mutual support."\(^1\) This was not always possible, and the mortars, particularly those of 120 mm, compensated for the shortage of artillery.

The vulnerability of position artillery became disturbing as Viet Minh armament improved (notably in artillery and mortars). By the end of the war an attack against a post always included the neutralization of the position artillery responsible for firing the barrages in the area. This counterbattery was particularly effective at Dien Bien Phu, where the two battalions deployed for the defense of the strong points were first neutralized and then destroyed by

\(^1\)Lieutenant commanding a position artillery section, later a battery.
enemy artillery fire. The problem of protecting the guns thus became more and more acute, and the use of gun pits alone became inadequate.

The use of an overhead shield reduces deflection by one-half (sometimes as much as two-thirds), which means doubling or tripling the guns needed for the same mission. Such limitations therefore can only be accepted where the guns are emplaced on the side of a hill or within a powerful strong point. The use of a turret, which had its supporters, might be acceptable in terms of a tank turret which could be easily positioned by some means which would have to be looked into (the 105-mm howitzer from the Sherman tank could be so considered).

At the end of the war, position artillery, which had rendered the best of service, was undergoing a severe crisis, and its disappearance, or at least its transformation, was being anticipated.

FIELD ARTILLERY

Field artillery was organized into battalions of differing calibers and was assigned to combat commands (mobile groups) and to area commands. The 155-mm HML battalions were held in general reserve.

The eight years of war confirmed the validity of our regulations, and "the various notes, studies, and directives concerning the employment of artillery issued between 1946 and 1954 all reveal the influence of the same basic concepts." Already in 1946 the colonel commanding the artillery in the Far East ground forces had written, "As a general observation, our mistakes are not the result of the peculiar nature of operations in Indochina, but rather are due simply to our forgetting the basic principles in our regulations which were confirmed and refined through the experiences of the last war."

The command organization was normal. The only unusual situation was when a combat command arrived in a zone or sector to carry out an

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1 There was also one 155-mm gun battery in Tonkin.
2 General commanding the artillery in the Far East ground forces.
operation, or when general reserve artillery units were assigned as reinforcements. Under these circumstances it was up to the area commander to control operations, and to his artillery officer to assume command of the artillery units, which were either in the combat commands for the operation, or came from the general reserve. If for personal reasons this cannot be done, the area artillery officer should become the deputy of the commander of the general reserve unit, and this last should act as the area artillery officer.¹

The function of the artillery unit commanders within the combat commands became somewhat difficult when artillery battalions were assigned to the mobile groups, and these usually operated alone or at considerable distances from one another. The "double subordination," both tactical and technical, tended then to become purely tactical. In this connection, another artillery commander wrote, "The role of the area artillery commander in our type of operations (Middle Laos) was negligible, since the mobile groups most often operated several hundred kilometers apart, and consequently there were very few opportunities to mass fires."²

It should also be noted that "whereas the reports of the commanders of combat commands and artillery formations generally reflected both understanding and confidence,"³ several mobile group commanders did not possess detailed knowledge of the capabilities and limitations of artillery, appreciation that artillery is the means wherewith they impose their will at the point they select, precise understanding of their relation to their artillery commander, or the need to have him contribute to operational planning."⁴

Artillery battalion commanders were most often recently promoted majors. Thus, "while they might be technically competent, their seniority did not provide them much support....In the case of mobile

¹Colonel X, commanding the artillery in North Vietnam.
²Colonel commanding artillery in South Vietnam.
³Colonel commanding artillery in North Vietnam.
⁴General commanding artillery in the Far East ground forces.
groups operating independently, it would have been better to have the artillery battalion commanded by a lieutenant colonel, who would act as the technical advisor to the mobile group commander, with a major as executive officer, who would, in fact, command the battalion.\textsuperscript{1}

The missions of the artillery in this type of ground warfare can be summarized as follows:\textsuperscript{2}

- Provision of moral support for friendly forces, while causing apprehension among the enemy (psychological fires)
- Support of offensive and defensive friendly operations (supporting fires)
- Disruption in advance of an enemy action (counterpreparation fires)
- Harassment of the enemy (harassing fires)

This classification, which is quite unusual, includes a type of fire "which has been used in all wars...which was frequently used in Indochina despite the fact that it cannot be found in the regulations...this is fire for its psychological effect:

- Either against an enemy whose activity is disturbing, and whom we wish to impress with the fact that if he does move the artillery is ready for him
- Or upon friendly forces, to enhance their confidence and remind them that the artillery stands ready to furnish them support

These fires, which use little ammunition, have often proven successful. If they were to be recognized in the regulations, there is some danger that their use might become generalized. However, there is little merit in ignoring them. It would thus have been useful had they been studied and formalized to include allocating ammunition for the purpose,\textsuperscript{3} inasmuch as the artilleryman, too, lives

\textsuperscript{1} General commanding artillery in the Far East ground forces.

\textsuperscript{2} Colonel X, commanding artillery in North Vietnam.

\textsuperscript{3} Colonel Y, commanding artillery in North Vietnam.
his war and understands the needs of the infantry, which bears the largest share of the burdens and risks of combat.  

"The general rules for the employment of artillery insofar as its fires are concerned remain completely valid: power, accuracy, timeliness... It is equally evident that the nature of the terrain and the enemy involve certain imperatives which will influence how these fires are applied."

Fires of an "offensive nature," preparations or supporting fires during an attack, counterpreparation fires, observed fires (destruction or neutralization), harassing fires—all of these must above all reflect power. The enemy is fluid and uses the terrain well, and only the first rounds will cause him casualties. After the first minute of fire, he finds shelter. Thus, "the greatest number of tubes, each firing the minimum number of rounds and all reaching the target at the same time," is required.

Fires of a "defensive nature," barrages and concentrations called by forward observers to break up an attack—all must be timely, i.e., executed immediately. The enemy will assemble quietly and will only show himself when he assaults; sometimes his line of departure is within our barrages (attacks at night). Beginning with the very first minutes, and without regard for losses, he will rush forward with great determination. Artillery must therefore first seek to stop him, for, if he reaches the position, there is little left for the artillery to do but interfere with the succeeding waves. In this situation "the rapidity of fire is more important than the effect of mass. This suggests that when an artillery battalion is supporting widely separated units (battalions, posts) each battery should have a different

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1Captain, battery commander and chief of an artillery liaison detachment.  
2Colonel X, commanding artillery in North Vietnam.  
3General commanding artillery in North Vietnam.  
4Major commanding an artillery battalion in a mobile group.
barrage contrary to normal usage. Once a given barrage begins, the
other batteries may adjust and extend it."

Observation, which is a normal reflex of the artilleryman, was
not often used in Indochina because of

- The terrain: flat deltas, with heavy vegetation at middle
  and high altitudes
- The inadequacy of resources, which did not permit the per-
  manent assignment of observers in posts with suitable watchtowers, or
  in villages with steeples
- The nature of the enemy, whose movements and preparations
  were unseen until the time for action arrived.

Continuous observation would certainly have permitted interfer-
ence with enemy activity, but this would have required great patience,
for "many were the days spent in seeing nothing to gain a rewarding
fifteen minutes."^2

Signal communications generally worked well. "The striking thing
when first coming to Indochina was to observe the great flexibility
of radio communications....Upon arrival, the battalions generally
handled all their traffic with one assigned frequency. In France they
had two frequencies, and the question was how to use them: was it
better to use one frequency for normal traffic and hold the second one
for the overflow, or should one use one frequency for fire direction
and one for command? Experience suggested the first course, but it
would have been interesting to see what would have happened if a bat-
talion had three forward observer and liaison detachments, each with
four officers equipped with a radio."

A number of artillery battalion
commanders in Indochina did nevertheless request the assignment of a
second frequency. "A single battalion frequency requires strict net

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^1Major, battalion commander.

^2Lieutenant, liaison officer with a mobile group.

^3Colonel commanding the artillery of the 3rd Provisional Division,
Tonkin.
control, and it is almost impossible to support two battalions of infantry when requesting priority fire missions at the same time."\^{1}

It should be noted that in North Vietnam there did exist "an artillery common," which was a second frequency set on the 609 radios for the artillery command. This was used to handle overflow traffic during crises, although it had not been established for this purpose.

The displacement of artillery units was the cause of grave concern to all area commanders. "Displacement along a trail requires a considerable engineering effort. The artillery battalion of the mobile group took a week at the beginning of February to move from Tham Lay to Mahaxay (Middle Laos), the distance of only 15 km being covered with tremendous effort on the part of the personnel. The displacement of an artillery battalion by road is a nightmare for the command. The enemy knows this well, and his reports stress the importance of attacking artillery units while displacing. He attained considerable success against the battalion in the region of Pakse on April 4, and against a battalion on June 24 some 12 km from An Khe. An artillery battalion, whether in position, in bivouac, or on the march, requires a security force which approximates the equivalent of an infantry battalion."\^{2}

The best security was provided by other artillery in position. "There is no question that a displacement wherein each element is covered by artillery, which is itself well protected, is slow, but this virtually insures the success of the move."\^{3}

In this connection, one can cite the withdrawal incident to Operation MOUETTE, the evacuation of Hoa Binh, as well as the retrograde movement of our mobile groups from Ban Na Phao to Mahaxay along Colonial Road No. 12 in 1954.

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\(^1\) Major, battalion commander within a mobile group.

\(^2\) Colonel, commanding artillery in South Vietnam.

\(^3\) General, commanding artillery in the Far East ground forces.
All of our displacements were influenced by three factors peculiar to Indochina:

- The scarcity of suitable deployment areas
- The lack of enemy aviation, and his infrequent use of artillery
- The importance of close-in defense against Viet Minh infantry

"These conditions resulted in deployments where all the elements of the battalion were close to one another, both because of the limited space available, and to reduce the perimeter to be defended. The intermingling of guns, vehicles, and tents which this necessitated was more suggestive of a gypsy camp than an artillery battalion in position."¹

"Deployment areas for an artillery battalion appear to range from those of Indochina (4 to 6 acres), to those generally considered suitable for Europe, which easily extend from 80 to 100 acres for a battalion with 18 guns. It should be noted that while the first is prohibitively vulnerable to enemy air and artillery attack, the second does not lend itself to the organization of a close-in defense."¹

"The problem of close-in defense, which was a consequence of the absence of a front, was resolved in several ways:

- Through immediate infantry support
- Through covering fires by other artillery units
- Through line-of-sight fires by batteries being attacked."¹

Experience confirmed the importance of the last two points, in particular the use of time fire registered on likely enemy approaches (for example, this proved highly effective for the artillery battalion of one of our mobile groups at Ha Yen in January 1953). For "the infantry force required to provide security for an artillery battalion and the command post of a mobile group, this ranged from one company to one battalion, according to the situation."²

¹Colonel commanding artillery in Central Vietnam.
²Major commanding artillery battalion in a mobile group.
The total of 474 personnel authorized for the battalion, consisting of 21 officers, 76 NCO's, and 377 men, was already inadequate and was never reached in practice. Moreover, the battalion could only field with difficulty three forward observer teams of two officers each, when the mobile groups often had four battalions of infantry, one tank company, and engineer as well as sector formations. The organization of an artillery battalion with two batteries, each with six tubes, was tried in an effort to economize personnel, particularly NCO's. But this gain was counteracted, as could be expected, by a reduced flexibility in fire support capabilities. Moreover, it was impossible to continually man an observation post unless the personnel could be borrowed from other units. A 24-hour radio watch on the fire direction net and the command net was almost impossible to maintain when the artillery headquarters was out of range of the SCR 600 (or AN/GRC 5). Finally, the personnel required for close-in defense consisted, with few exceptions, of people with other duties.

In order for a battery to make available one forward observer team of two officers, which is the minimum requirement, it needs four officers. This is the only way that the battery commander can maintain even intermittent contact with his unit. All the captains complained of having been "practically obliged to pass command of their battery to their gunnery officers who alone knew the NCO's and men because they lived with them."

The battalion had a rear base which served as a rest area, where the headquarters and service battery was located along with the administrative personnel of the batteries. The prevailing insecurity required that these people be provided with some security personnel, and this further reduced the strengths in the operational elements. As it developed, the infrequency and brevity of contacts between a unit and its rear echelon made it possible to group several battalion rear areas and thus reduce security personnel requirements.

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1Captain commanding a battery.
In conclusion, nothing of any significant and novel nature was experienced insofar as the employment of artillery was concerned. Indeed, the unusual conditions of combat actually imposed some violations of the acceptable practices (restrictive deployment areas, difficulties of ground observation, etc.). One fact does stand out, and that was the growing importance of artillery throughout the course of the war, not only to our own infantry but also to the Viet Minh, who, in writing about our strong points and our defensive tactics, stated, "Of all the means of defense available to the French, artillery is the most effective."\(^1\)

For a description of the evolution of fire resources, see Fig. 22.\(^1\)

Fig. 22—Growth of major fire support weapons
The campaign in Indochina revealed once again that the Army needs its own aviation. From the very beginning of the war there were substantial requirements for both the command and the artillery, and these were met, from 1945 to 1947, with the Piper Cubs of the 9th Colonial Infantry Division and the squadrons of Morane 500's which followed. The Artillery Aviation Command, organized in September 1946, was unable to improve upon this situation, and by 1947 Army aviation was at its lowest ebb.

Meanwhile the Air Force had taken note of the capabilities of Army aviation for control of fighter and bombardment aircraft. In 1948 it refitted the three squadrons of artillery observation aircraft, and these passed under Air Force control until 1952. Then, on March 3, 1952, an order was signed returning control of the artillery observation aircraft to the Army. But, to avoid a repetition of the difficulties of 1946-1947, this order was only implemented progressively. The Artillery Aviation Command was reactivated in January 1954, and the personnel transfers were completed in April, but all of the material was still not under Army control when the war ended.

This brief summary clearly shows how long it takes, despite the existence of urgent requirements for an organization such as Army aviation, to gain an autonomous status. These requirements varied widely. "Observation aircraft were called upon for many kinds of tasks: air spot for mortar and artillery fires, reconnaissance patrol, close support for ground forces, radio relay, air direction of Air Force fighter and bombardment aircraft, reconnaissance of drop zones, aerial supply of rations, mail, medical stores, air evacuation, etc., to which should be added command liaison, battlefield surveillance, and the armed reconnaissance missions flown at the beginning of the war when the observers would attack targets of opportunity with their automatic rifle."¹

¹Lieutenant colonel commanding Army aviation in the Far East ground forces.
Air spot for artillery was particularly valuable in Indochina, where ground observation was often difficult. This remained a basic mission of Army aviation, but despite its overall utility, it was not used as often as it might have been. One reason for this was that the airborne observer was not always available when the artilleryman needed him most, that is, at the end of the day when a new position had been organized following a displacement. Another reason was the frequent lack of confidence in an anonymous and unknown observer. Certainly all officers could sense a general support fire mission, but the artillery battalion commanders usually preferred to have an artilleryman adjust precision fires.

The aerial observer acted as the link between the Air Force and the artillery in the coordination of close air support with artillery support. The only way that the artillery could avoid a "fire support gap" between an aerial and artillery bombardment was to maintain contact with the airborne observer who would advise the artillery when the air support mission was completed.

"Visual reconnaissance from the air was relatively ineffective during routine patrols. The reasons for this were: the facility with which the enemy would blend with the terrain (in open country, if the Viet did not move, he became invisible), the difficulty of observation in wooded areas, and the long period of warning provided the enemy by the noise and slow speed of the Morane. However, visual reconnaissance of a specified area almost always permitted the confirmation of a given item of information.... At the beginning of the war, visual reconnaissance patrols were flown at low altitudes (between 200 and 600 m). Towards the end of the war this had been raised to between 900 and 1,000 m because of the appearance of light antiaircraft weapons in ever increasing numbers. Low-altitude passes could be made, but only once over the same area. It should be noted that there was no significant reduction in the effectiveness of these missions....the Viet, becoming less cautious, would often let himself be surprised."^1

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^1 Lieutenant colonel commanding Army aviation Far East ground forces.
Several air observers raised the question of night aerial photography and reconnaissance. Toward the end of the war some hesitant trials had been made in this domain, but these never were pursued to the point where any judgment of their merits could be made.

Support for ground forces "either during a combat operation or to reconnoiter ahead of and guide a convoy...was highly effective..."\(^1\) However, during operations the air observers were very often requested to maintain close and continuous surveillance over the immediate flanks of the ground units engaged. In such circumstances, the air observers should not hesitate to extend their surveillance well beyond the immediate vicinity of friendly forces, because the most valuable information is very often found several kilometers away, and sometimes even outside the area of operations itself.

Several reports refer to the possibility of conducting an operation from an observation aircraft: "The fact is that for a major operation, the commander himself should be airborne. What better place can there be from which he can see the whole of his command and can distinguish details?"\(^2\) The point here is not that a commander should be airborne from the beginning to the very end of an operation; but the possibility for him to scan the whole of his position at periodic intervals and note the difficulties of the terrain would certainly be most useful.\(^3\)

Armed reconnaissance obviously requires an aircraft suited for the purpose. In the face of an ephemeral enemy, the transience of targets is such that many opportunities are lost because of slow communications. One out of thousands of examples follows: "...on December 1 at about 1800 hours, while returning from a visual reconnaissance mission, we observed some 100 rebels massed on the east bank of the Song Thai Binh River preparing to effect a crossing in sampans. No attack air was available at Haiphong; a homeward bound B-26 was diverted and arrived after 10 minutes, then two fighters sent from Hanoi arrived

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\(^1\) Lieutenant colonel commanding Army aviation Far East ground forces.

\(^2\) Lieutenant, air observer.

\(^3\) General G used his Morane for this purpose and was trained in Tonkin.
after 15 more minutes had passed. Meanwhile the rebels had dispersed and the air attacks were virtually useless."¹ A Lieutenant T stated, "Light observation aircraft often could have attacked small fleeting targets effectively had they been armed with a pair of machine guns or rockets...."²

Airborne direction of fighter and bombardment aircraft became virtually indispensable for close air support missions, since fast aircraft permit only poor visibility and are not in contact with troops on the ground. The air observer not only sees the terrain from the same angle as the other pilots, but also knows the location of friendly ground forces, is familiar with the situation, and can communicate with the infantry and artillery as he can with other aircraft. He is thus the link between the ground forces and the Air Force.

Target identification "by the observation aircraft consisted of tossing one or more smoke grenades on the objective to be hit by attack aviation." This technique "had the great disadvantage of forcing the observation aircraft to descend to a low altitude (100 m). This requirement was changed when the U.S. rifle smoke grenade M-20 or M-22 became available. This could be fired from 1,000 m altitude with satisfactory accuracy. The use of this grenade is recommended, although a high percentage of duds occurred when fired into water or mud."³ One observer who carried out numerous missions over Dien Bien Phu pointed out the impossibility of marking targets with smoke grenades because of intense antiaircraft fire, and suggested that "artillery be used to fire smoke shell to mark targets, with the fire being adjusted by an artillery air observer located at an oblique angle to the target."⁴

The importance of this airborne direction serves to explain why the Air Force was so anxious to retain control over light observation

¹Major, artillery aviation, Far East ground forces.
²The Cessna L-19 can be armed with rockets, but it was not available in Indochina until near the end of the war.
³Lieutenant colonel commanding artillery aviation in the Far East ground forces.
⁴Lieutenant, air observer.
aircraft, and why, at a minimum, it wanted to control them through the tactical air groups. The centralized control of all aircraft was justified by the Air Force because of the fact that the tactical air groups were, in any event, to be advised of all air activity to assure security.

Such arguments were not held to be overriding by supporters of an independent Army aviation, since the air support direction missions were not considered to be more important than any other. Accordingly, they felt that the assignment of aircraft for these missions should be decided by the joint commander through normal air support channels, inasmuch as these channels could operate in both directions. Moreover, they argued, the tactical air groups could be informed of all air activity without necessarily having all aircraft under their control.

"The responsible commander should be able to directly control his observation aircraft, or delegate this to an appropriate subordinate. It seems illogical that, on the contrary, he be required to address his requests to an outside agency (tactical air groups, air support direction centers) to obtain the support of aircraft which belong to him." This last view eventually prevailed, and Army aviation regained partial autonomy beginning in 1954. If the war had continued, it is likely that it would have come completely under Army control since on many occasions it already operated outside of the tactical air groups.

"In over half the cases, the absence of any nearby Air Force agency resulted in having air observation detachments placed directly under ground force commanders." At times, more than simple detachments were involved. "During Operation MOUETTE in particular, the commander of the artillery controlled observation aviation and these aircraft were able to satisfy all requirements, including those of the Air Force."}

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1 In most cases, air support requests included the fact that an air observer would direct the strike. There was therefore no need to request this service.

2 Major commanding Army aviation in the Far East ground forces.
However, after the end of the war, another step forward was taken, and the employment of observation aviation was handled through regular air support channels. This appeared to be a satisfactory procedure, although it had not been tried in combat. Army aviation units then were normally stationed at air bases, since they were controlled by the tactical air groups, and this placed them closer to repair, maintenance and, most important, security facilities.

This organization had the disadvantage that Army aviation detachments, which were difficult to staff, often had to be formed in order to assign them to an operational commander. Moreover, the same observers did not always necessarily get to work with the same ground units. "One cannot prescribe organizations which are applicable in all circumstances... The ideal solution would appear to be the allocation to divisional or combat command formations and the separation of branch formations at an appropriate level (infantry regiment, artillery battalion, etc.) of a platoon of four to eight aircraft manned by personnel from the branch to which they are assigned. If resources do not permit, it would still be preferable to organize platoons of four to eight aircraft rather than create larger units, these platoons being assigned to using units as required. Thus, using units could satisfy their air requirements with little delay and under the most favorable circumstances."¹

Many air observers shared this view. "It would have been desirable to have observers, and even air crews, thoroughly familiar with a given region...the observers to keep track of enemy activities and the development of his installations without concern for orientation on the terrain or for navigation.... To know the people for whom one works is also important for the observer...and reciprocally, the troops on the ground would have enjoyed having observers whom they knew...."²

¹Major commanding Army aviation Far East ground forces.
²Lieutenant X, air observer.
Such an organization would also have permitted joint briefings to be held at a given place before each mission. As a captain explains: "Most often orders were received in abbreviated form over the teletype from the tactical air group. These orders seldom included more than the rendezvous location and the radio call sign... and left the observer in the dark as to general orientation and the magnitude of the operation." This would also have reduced reaction times, as the same captain states: "There were inexcusable delays of many hours ¹ between the time an ambush or an attack against a post occurred, and the appearance of an aircraft. In a delta extending over only some 15,000 sq km, this can only be explained by the number of useless intermediaries who filtered, transmitted, and modified the requests."²

Finally, the ground commanders who had no assigned aviation "tried to retain control over the Moranes by having them fly in circles overhead just in case something might happen."³ This waste could have been avoided by a decentralization of resources, but there were not enough aircraft for the purpose.

Security capabilities determined the degree to which aviation detachments could be dispersed to better facilitate their employment.

Experience revealed certain inadequacies in the Tables of Organization for the air observation squadrons.⁴ "The squadron should be commanded by a field grade officer, the requirements and responsibilities being too large for a captain."³ The squadron should also have included additional personnel: an aircraft maintenance officer, an administrative officer or NCO, and two NCO clerk-typists.

¹The captain expanded, "These delays varied greatly: one-half hour when the aircraft was on ground alert with radio in place, several hours when the radio had to be tuned to a different frequency and the crew had to be called out...."

²Captain commanding an Army aviation squadron.

³Lieutenant, air observer.

⁴The air observation squadrons consisted of three platoons with six aircraft, and had 19 officers, 50 NCO's, and 88 other ranks (a total of 166).
Personnel also requires extensive training. "A pilot requires a month of training for operational proficiency; a mechanic needs two to three months. An air observer needs 60 to 80 hours of flight time in actual operations before he becomes truly effective..."\(^1\)

After allowing for these periods of training, the crews proved entirely satisfactory. "While young to the trade and full of enthusiasm, they carried out missions that would have made old timers hesitate."\(^2\) In short, observation aviation in Indochina was the "general-purpose maid," the "flunky," and the "most valuable of helpers"\(^2\) to the command, and its appearance overhead encouraged the infantryman in trouble, whether he was in the brush, in the paddies, or in a post under attack.

The fact that Army aviation was controlled most often by the Air Force is primarily due to the lack of other aircraft to direct close air support operations. Its control by the Army is desired by all the combat forces who have learned to appreciate its potential, and who look to the day when helicopter units will be integrated within it.

\(^1\) Lieutenant, air observer.

\(^2\) Expressions often included in reports.
XXIII. HELICOPTERS

Despite their obvious utility, helicopters appeared very late in Indochina. In 1950 two machines were acquired by the medical service and were operated by the Air Force. In 1952 this number grew to ten through purchase and private contributions. This increase required that an organization be formed, and between January and April 1954, the Army organized a Helicopter Training Command. A heliport was built in Saigon and plans were made to procure a total of 100 machines in the course of the same year.

Meanwhile, the Air Force also had looked forward to organizing some helicopter formations, but funding restrictions required that the resources of both services be grouped into one mixed squadron in which Army and Air Force personnel would work together until the Army would have large enough formations to warrant its independence. As a result, by the end of the war we were still in an organizational stage characterized by centralized administration and maintenance.

The need to organize small detachments to meet the requirements of the area commands had appeared very early. "In fact we quickly recognized that there were essentially two types of areas, and these we equipped one after the other.... First, there were the deltas (or coastal areas) characterized by level ground, short distances, high civilian population and troop densities, and generally favorable weather conditions. The second type was the plateau and mountain areas, characterized by forest cover, small scattered specialized troop units, long distances, high elevations, and usually poor weather.... In the first type of area, the light Hiller helicopter, which had little power and limited endurance, and could lift only two passengers at sea level, proved excellent. In the second type of area, the aircraft had to be powerful and reliable, required

1It was planned to include in the 65th group a headquarters, a light squadron with 25 helicopters, a medium squadron also of 25 helicopters, and a maintenance squadron. In actuality, this unit received only 28 helicopters by the end of the war.
navigation instrumentation, and normally had to operate at higher altitudes. The S-51 could hardly meet these requirements and was soon replaced by the Sikorsky H-19.\(^1\)

The dispersal of the helicopter detachments and the long distances involved created many problems. "The assignment of H-19's to Laos out of Saigon involved 30 hours of flight time (round trip) out of 150 hours available between maintenance checks; this was 20 percent of the total time."\(^2\)

It was occasionally possible to deploy helicopter detachments by ship or aircraft carriers, but priority requirements seldom permitted the delays involved. Thus, "the deployments cost some 1,500 flight hours, 400 of which could probably have been saved."\(^2\)

**TRAINING OF PERSONNEL**

"The first Air Force helicopter pilots were trained at civilian centers in France and England and at U.S. Air Force facilities. The Army pilots were trained in French civilian schools (HELCOP-AIR, FENWICK, SNCASE).\(^2\) None of these pilots had any operational training. Thus, when they came to Indochina they had to receive further air and ground schooling before they could be assigned to operational missions. This essential training utilized an allocation of flight hours which often conflicted with operational requirements.

The maintenance personnel initially came from the air liaison squadrons and had "a cadre of one officer and 22 NCO's with helicopter training; five of these had completed the course given by the Westland Company in England." Subsequently, other maintenance personnel were trained in France. By the end of the war the Army had both pilots and maintenance crews whose competence was equal to that of Air Force personnel. The Army could therefore have organized its own units.

\(^2\)Major X, commanding the helicopter training group.
GENERAL UTILIZATION

"With few exceptions, helicopters were used for rescue type missions. Their main service involved the evacuation of wounded, sick, liberated POW's, and the pickup of escapees or stragglers."¹ Examples of these types of missions follow: "On November 30, 1951, a Hiller 360 was disassembled at Saigon, loaded aboard a Bristol, flown to Hanoi, and reassembled at Gia Lam the same day. On December 2, this helicopter was used to evacuate 24 serious casualties from Column X in the region of Ban Mo (Thai country). On December 14, 1953, one H-19 evacuated 76 wounded from a strong point at Dien Bien Phu to the central command post area. Subsequently, the evacuation of 50 to 60 wounded by one aircraft happened more than once.²

...From March 14 to 25, helicopters evacuated 101 wounded from Dien Bien Phu in 53 hours of flight time.... From May 7 to July 20, 80 escapees from Dien Bien Phu were rescued by helicopters operating in very difficult conditions (high altitude, forest) using winches and rope ladders. One H-19, after the war, rescued the crew of a British commercial ship that was sinking in the Bay d'Along."

The execution of helicopter missions was often hindered by ignorance of their proper utilization. Too many of our commanders were prone to think in terms of demonstrations they had seen at some air show under ideal conditions. These attitudes provoked the following commentary from pilots:

"Insofar as the Army is concerned, an effort must be made to familiarize officers and men with the helicopter and modify their optimistic ideas about its performance in vertical flight, since these often result in inadequate landing zones and the consequent need for some fancy aerial acrobatics, which fortunately usually succeed."²

¹As of July 31, 1954, 10,820 wounded and sick had been air evacuated, and 38 pilots and 80 escapees had been recovered incident to 5,400 sorties involving 7,040 hours of flight time.
There usually was a considerable delay in obtaining helicopter support because the requests, during operations, passed through the air support request channel. At other times, requests passed through the territorial command net. "In the Tonkin delta and in Cochinchina, the processing of a request took from two to three hours, plus the flight time. This was acceptable, but in the course of combined operations (particularly in Central Annam) these delays might extend to five or six hours."¹

Viet Minh antiaircraft fire often hit helicopters, not only at Dien Bien Phu, but also in all other regions. "At the time of the cease fire, all helicopters working in the delta had been hit by ground fire, one having received 23 hits while in the sector of Hung Yen."¹ Losses were nevertheless not prohibitive. "Out of 42 helicopters delivered to the theater during the war, nine were lost for a variety of reasons, and only two were shot down. One should not, however, jump to any conclusions concerning the relative invulnerability of the helicopter."²

To provide some protection to the crews, the following measures were adopted:

- A minimum cruise altitude of 3,000 ft was prescribed to avoid light antiaircraft fire, and to permit selection of a landing zone in case of accident.³

- Furthermore, "to facilitate navigation in these types of aircraft where there is little time to read maps or use the radio, the normal practice was to overfly secure roads along which there were friendly posts...."⁴

- Finally, if the unit requesting the helicopter deemed it necessary, a fighter escort was assigned to provide protection in the area of the landing zone.

¹Major X, commanding helicopter training group.
²Of these 42 aircraft, nine were returned to France.
³This altitude permits one and one-half minutes of autorotation, and a landing within an area of more than 1 km.
This latter point could be interpreted as a violation of the Geneva Convention, which, in theory, provides immunity for vehicles, ships, and aircraft engaged in the transport of wounded, sick, or medical personnel.\textsuperscript{1} However, there is too much of a tendency to think that painting a red cross on an aircraft guarantees its safety. There were too many cases where guerrillas in the delta fired on medical evacuation aircraft, and these had to be protected.

"One can ask whether the use of fighter escort for helicopters led the Viet Minh to look upon these as hostile aircraft and act accordingly." As a matter of fact, ground units too often "asked for a medical evacuation flight with fighter escort for the sole purpose of having combat air support. The helicopter pilot upon landing would be shown certain objectives and be asked to relay the information to the escort aircraft. Whether annoyed or not, the pilot would always gladly provide this service with the result that, thanks to him, the appearance of a helicopter usually meant a precise and murderous air strike....\textsuperscript{2} It was for this reason that at Dien Bien Phu the helicopters became prime targets whose protection required increasing the number of fighter planes (with as many as 16 being used for one mission) and even B-26's (six of these being used at one time for bombing and strafing, while two were used to lay smoke)."

It is considered desirable that, in the future, knowledge of the provisions of the Geneva Convention and the immunity conferred upon the Red Cross be disseminated to all echelons so that these can be scrupulously followed in order to demand of the enemy a corresponding adherence under pain of reprisals.

**TACTICAL EMPLOYMENT**

The small number of helicopters available during the campaign did not permit them to be used tactically. Nevertheless, "an H-19 was employed to land a commando (in two trips) for a special operation

\textsuperscript{1} Geneva Convention of August 1949, Chapter III, Articles 19, 20, 35, and 36.

in Central Annam...the mission was completely successful; the aircraft was never discovered.\textsuperscript{1} Another similar incident took place in Cochinchina where a commando was secretly landed in a Viet Minh controlled area. A pathfinder element was first parachuted at night in a drop zone previously selected from an aerial photograph. Radio contact was then established with the helicopter carrying the remainder of the commando unit, and it was directed to the landing zone. The helicopter later withdrew carrying one wounded, the parachutes, and some equipment.

The command anticipated being able to multiply these types of missions. The plan to procure 100 helicopters by the end of 1954 would certainly have been only a first step, since studies completed in 1952\textsuperscript{2} spoke of "a new form of tactical maneuver which, because of unusual mobility and security, would far outclass enemy forces moving overland."

"By being able to undertake a series of successive concentrations of all available resources without jeopardy to the security of the whole...by being able to operate without concern for land lines of communications either in hostile zones, in rear of enemy forces, or in friendly areas, these successive operations should seek to encircle and destroy the Viet Minh divisions, which generally operate at several days march from one another."

To implement these concepts in their fullest sense would have required:

- 100 light and 400 heavy helicopters.
- Training the additional pilots and maintenance personnel. A plan to achieve this in one year (beginning with an initial allowance of 25 helicopters) was developed.
- Funds of between 70 and 80 billion francs.

As noted by the Commander, Far East Air Force, "expenses incurred incident to Indochina could have resulted in the reorientation of

\textsuperscript{1} Major X, commanding the helicopter training group.

\textsuperscript{2} Study on the employment of helicopters in colonial wars by Allied Tactical Studies Group, May 26, 1953.
our armed forces towards novel concepts that would have permitted limited forces to enjoy significantly improved effectiveness."

While not quite so ambitious, the views of many Army officers began to be heard. One armor captain wrote, "armored cars, tanks, and amphibious vehicles no longer suffice to permit cavalry to carry out its traditional missions. If we do not learn to maneuver at tactical echelons in three dimensions, we will again be one war late when the next one starts." Light Army aviation which included helicopter formations would have satisfied these views, which were also voiced by most of the commanders. Such an organization might well have been born in Indochina.¹

¹As an example, the following table lists allowances of Army aviation units in each division of the U.S. Army:

Table 4

<table>
<thead>
<tr>
<th>Units</th>
<th>Fixed Wing (2 place)</th>
<th>Fixed Wing (multiplace)</th>
<th>Helicopters</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division headquarters</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Division signal communication</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Engineer</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Three infantry regiments</td>
<td>3</td>
<td>-</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Division artillery (4 battalions)</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Totals</td>
<td>13</td>
<td>3</td>
<td>10</td>
<td>26</td>
</tr>
</tbody>
</table>

¹As quoted in Officers Call.
XXIV. THE ENGINEERS

The 1939-1945 war had emphasized the growing importance of the engineers. This was to become even more apparent in Indochina where the Expeditionary Corps found itself confronting a vast area wherein the Public Works Service, disorganized by the events of 1946 and lacking in resources, was incapable of restoring and maintaining the infrastructure essential for combat operations. The task of the engineers thus became greater than it had been in Europe, but their personnel strength remained "far below requirements since it comprised only four percent of the total personnel of the Expeditionary Corps, whereas, to overcome the difficulties due to the geographic characteristics of the country, it should have had 12 to 14 percent of the total strength, as indeed was prescribed in all foreign armies."¹

The shortage of personnel thus increased the difficulties, and while the Corps managed to carry out its multiple tasks, it nevertheless appears as a significant lesson of the campaign that the engineers should have had a much higher percentage of personnel than was formerly authorized. Moreover, the absence of any front and the general insecurity that prevailed caused the engineer service support elements to share with the combat engineers the same risks, the same problems, and often even the same missions. It is for this reason that, for example, "the responsibility for the road net of Tonkin was shared by combat and service support engineer units, with the latter often having direct responsibility."² The activities of these two general categories of engineer troops were thus inseparable and will therefore be discussed together.

**Organization of the Combat Engineers**

At the beginning of the war engineer forces were organized, as were the forces of all other branches, on a European basis. They therefore had to be altered in consequence of the nature of the

¹Operations report, chief engineer officer in the Far East.
²Lieutenant Colonel X, commanding engineer troops in Tonkin.
operations, and above all in response to the amphibious nature of the major battle areas. In any event, the combat engineer battalions included two or three combat engineer companies and a headquarters company, and were thus similar to the formations in France.

General reserve units included:

- Engineer service battalions tasked with supporting combat formations and providing engineer equipment resupply to other ground forces.¹
  - Dump truck companies.
  - Road construction companies, each of which could construct about 5 km of new road per year.²
  - One boat company used to provide ferry service at certain locations.
  - One armored boat company with heavy engineer equipment for work on the rivers.

The last three types of units were special in that they had been organized to respond to the peculiar requirements of the theater of operations.

The foregoing organizations, which reflected the limitations imposed by personnel shortages, were inadequate for maintenance and repair functions. The support of the combat companies was thus accomplished with considerable difficulty because of "the disproportion between the quantity of equipment available and the shop facilities responsible for its upkeep and repair."³ This situation was further aggravated by the following factors:

- "The general worn condition of the equipment following several years of hard use.

¹The engineer service battalion included a headquarters and service company, an equipment company, a maintenance and repair company, and a bridge company.

²Each company included a maintenance and shop platoon, a quarry working platoon, a motor transport platoon, and a labor force platoon.

³Captain X, engineer troops, North Vietnam.
The lack of spare parts, which often had to come from Saigon or had to be handmade.

The many different types of equipment in use, French and American, which required additional numbers of qualified maintenance personnel, a large inventory of spare parts, extensive shop facilities, and a shipping and receiving service staffed with numerous highly qualified individuals.\(^2\)

The error of dispersing equipment in numerous isolated units. Whether one refers to boats and motors, to electric generators, or to earth-moving equipment, the scattering of this material made maintenance virtually impossible. The units were responsible for this maintenance, but because of lack of training, they most often merely brought in an unserviceable item for exchange, or better yet simply reported the item as broken down. In this case, a specialist would have to leave his shop to arrive at the unit and find once again lack of maintenance. While these types of problems are not too serious when one considers small items such as outboard motors which were available in large numbers, it does become serious when the item is a bulldozer. The driver alone does what he can, but when the equipment breaks down he cannot do much and must call for the repair crew.\(^3\)

### SERVICE SUPPORT

When the Expeditionary Corps arrived, it found an organization comparable to that in France which included a Buildings and Works Service and a Materiel Service.\(^4\) Both of these services came under the Engineer Command, but they could also respond directly to the staff of the Commander in Chief who controlled funding (action type

\(^1\)As an example, there were 20 brands of generators among 42 separate types.

\(^2\)Report of the chief engineer officer in the Far East.

\(^3\)Report of Colonel X, former commander, engineer troops, Far East.

\(^4\)The Materiel Service was headed by a deputy director of materiel in Saigon charged with satisfying the engineer equipment needs of all the territories. The Buildings and Works Service had administrative offices in all territories and a deputy directorate in the Engineer Command.
orders nevertheless had to be routed through the Engineer Command). This general organization was retained, and the Engineer Corps subsequently found itself assigning specialized units to certain tasks: (1) administrative support companies charged with the administration of personnel and the distribution of equipment required at construction projects, as well as that used to meet general purpose requirements of troop units; (2) heavy construction companies equipped with heavy equipment for major earth-moving tasks, and particularly for airfield construction. The foregoing in no way inhibited the normal practice, also followed in France, where the engineers called upon commercial companies and local industry to carry out the bulk of the construction projects, even those in insecure areas.

In a number of ways the idea of retaining a peacetime type of organization proved quite satisfactory, since "it relieved the Engineer Command of much accountability and thus permitted it to devote almost all of its attention to missions relating to combat operations." And by the same token, the service support formations, relieved of concerns in the forward areas, were far better able to handle problems in their domains as well as plan for the future." Nevertheless, many engineer officers would have preferred a wartime organization with Army administrative offices rather than the regional administrations which operated in accordance with regulations in effect in France before 1945, and which included specialized sections under an officer. The administrative regulations and job descriptions were the same as those in France. The activities were handled separately in each territory by a deputy enjoying authority delegated by the director in Saigon. This raises the question of whether or not the existence of a service support organization separate from a combat organization is appropriate for a war without fronts. Indeed, a differentiation between "forward area engineers" and "rear area engineers" seems to lose much of its significance under such circumstances.

**COMMAND ORGANIZATION**

In each of the territories of Indochina, combat engineer units came under the commander of engineer troops of the territory, while
service support organizations came under a territorial deputy director. "This situation was acceptable in North Vietnam where the commander of the engineer troops worked next to the deputy director. A frank coordination of responsibilities was facilitated by this close contact, which simplified problems and smoothed out any difficulties. In Central Vietnam, however, the separation of the responsible officials complicated matters. In many places a personality clash would have had serious consequences. Indeed, certain difficulties were born of this, and it would have been better had the commander of engineer troops also been the deputy director."\(^1\)

This unification of the command would have permitted a better allocation of tasks, particularly since the combat formations participated with the service elements in the accomplishment of tasks of general concern to the territory. On the other hand, it was necessary that, for each operation, a varying number of engineer units be assigned to the mobile forces for support missions. In Tonkin, in particular, certain battalions were normally assigned to the provisional divisions, and their commanders found themselves drawn between the requirements of the divisions and those of the commander of engineer troops of the territory. To satisfy these opposing requirements, some officers would have liked to have battalions with four companies, "two of which could have worked under the engineer battalion commander solely for the division engineer officer, while the other two could have provided tailored detachments to the mobile groups to support their operations."\(^2\)

Such a solution would, in any event, have been a poor compromise. If the shortage of personnel had not imposed limitations, the Engineer Corps should have included: (1) combat engineer battalions in numbers necessary to meet the operational requirements of mobile forces; (2) general reserve formations, to include additional combat engineer

\(^1\)Report of the Chief Engineer Officer, Far East.

\(^2\)Major X, commanding an engineer battalion supporting a provisional division in Tonkin.
battalions plus a range of specialized units to carry out construction projects in all territories and to reinforce if needed "the forward engineers."

MISSIONS

The tasks assigned to engineers were highly varied, but two major ones absorbed the greater part of their efforts:

- Maintenance of communications which were subjected to continuing Viet Minh depredations, and which, in any event, also required considerable improvement.
- Fortifications, which have already been discussed in a separate chapter, and which required an effort of considerable magnitude and duration.

In addition, engineers had other missions:
- Construction of camps and other military facilities.
- Improvement of airfields.
- Improvement and development of ports and beaching sites.
- Building of power stations.
- Development of water points.
- Building of depots (munitions, fuels, etc.).
- Maintenance of certain sections of railroad.

The multiplicity of tasks was not the only problem, for the engineers also had to resolve questions relating to the supply of construction materials and labor forces which were quite delicate. There is no question, however, that the reestablishment of communications was the task which required the greatest effort, and certainly the greatest ingenuity.

CONSTRUCTION MATERIALS SUPPLY

Most construction projects required cement, steel, lumber, stone, etc. In order to meet these many requirements over such a vast area, it was necessary to have recourse to commercial enterprises. Unfortunately, these were unable in 1950 to satisfy more than one-fifth of the requirement, at least in Tonkin. "Thus we bought steel in Japan,
Hong Kong and Manila. We undertook logging operations in Laos and opened sawmills, we invested heavily in quarries, we built a river transport fleet, and we encouraged the development of much small native industry with initial financing and direction provided by the engineers.\(^1\)

The greatest problem was obtaining crushed rock, which was needed not only for road work, but also for airfields and concrete. In Tonkin in 1951, for example, the fortification program almost collapsed because the output from the quarries was too low.\(^1\)

In the course of time most of the problems were overcome. However, there always remained the matter of transportation, since the tonnages involved were so great that we could only use roads and waterways. In areas where there were no communications, the support of construction projects was therefore extremely difficult, and this was particularly inhibiting when it came to building the air-supported land bases which the High Command organized during the last two years of the war.

The Engineer Corps also had to supply units with a wide assortment of materials. As an example, between October 1953 and June 1954, 8,200 tons of barbed wire were expended with the high monthly point being 1,400 tons and the low monthly point, in January 1954, 17 tons.

It is evident that air transport was unable to "the supply requirements by itself"\(^2\) and we had to forego the construction of concrete blockhouses and even the reinforcement of shelters with rails or sheet steel. On many occasions the engineers also were distressed that none of their equipment was air transportable, since to provide a minimum of bulldozers it was necessary to improvise

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\(^1\) Colonel X, former commander of engineers in the Far East.

\(^2\) At Dien Bien Phu air transport delivered 2,877 tons of barbed wire and pickets, 150 tons of lumber, and 28 tons of mines and explosives. There were also 760 tons of pierced steel planking delivered at the beginning of the operation to improve the airstrip.
disassemble procedures and accept the fact that the equipment would eventually have to be abandoned.  

LABOR

The shortages of personnel in the engineer units placed a heavy reliance upon local labor resources—prisoners and coolies of both sexes. While the capability of each of these individuals was low, they were available in sufficient numbers to be able to complete leveling and fill projects in an amazingly short time. To excavate an area of 2,000 to 4,000 cu m, for example, the little baskets carried by a veritable horde of laborers could beat the bulldozer. This led an engineer officer to exclaim, "The superiority of the machine over man is not valid under all conditions and at all latitudes...if one accepts the fact that the modern solution to a problem is to obtain the desired result at least expense and in the shortest time, then, in the case of area X, it is better to recruit 200 coolies locally, provide them with picks and shovels, and let them work fifteen days, than it is to get a bulldozer from the nearest facility (most often from Saigon, which is 600 km away by convoy) together with its crew and fuel, even if it can then do the job in 48 hours of operation."  

For his part, the Viet Minh provided us with many examples during the last year of the war of how quickly he could repair damages due to our bombardments or build up the infrastructure he required.

THE REESTABLISHMENT OF ROADS

The road net of Indochina had been built primarily to permit communications rather than support transport. It was thus limited in density, light in capacity, and, in the deltas and coastal areas, it

1 The three bulldozers used to develop the airfield in the Plain of Jars had to be abandoned, as were those used at Nam Bac.

2 Colonel X, conference on the limitations of the infrastructure of the Indochina theater.

3 Bridge capacities were usually 6 tons, and 12-ton bridges were to be found only on the major roads. Moreover, road structures were not wide enough for modern military vehicles.
was cut up by the multiplicity of water courses. In such areas the road was usually above the water level and was built along the top of embankments; detours were thus impossible. The road surface was also quite light, since it generally consisted only of a layer of crushed rock over a base of clay and laterite. These conditions favored enemy action, and his destructions were always cleverly planned.

The more important structures were first destroyed by whatever means were at hand: bridge supports were dragged off by buffaloes, wooden bridges were set afire, reinforced concrete was shattered by pick and drill, etc. Eventually the enemy resorted to the classic means of destruction by using high explosives. In the rice fields, the Viet Minh usually destroyed roadways in three steps. The first step, which took one night, involved the laying of mines and the digging of a "piano keyboard." The spoil from this effort was scattered over the fields. The second step consisted of transforming the "piano keyboard" into a series of ditches. In the third step, the ditches were extended so as to completely remove the road bed for several hundred meters. The water would then complete the work of destruction and the road would eventually dissolve into the rice fields.

In the hill and mountain areas the bridges and road cuts were the most critical points, but the vigorous plant growth also imposed constant maintenance work. An abandoned road was literally consumed by the vegetation in two seasons, and had to be completely rebuilt. The opening of a road in this type of environment required the use of heavy earth moving equipment since the crossing of the slightest obstacle necessitated the construction of appropriate structures, or the use of temporary framing which the next high water would carry away. Route 4 south of Xieng Khouang, which was opened for a distance of 40 km, had to be completely rebuilt after only one rainy season.

1 A series of cuts 1 m wide and 3 to 5 m apart on alternate sides of a roadway, leaving only a small walkway in the center for pedestrians.
2 This was the case of Colonial Road 6, abandoned in 1950 and used in 1951 for the operation at Hoa Binh.
The demands made upon the engineers were unusually heavy in that they included not only the reestablishment of land communications, but also the accomplishment of the following program as time permitted:

- The improvement of all principal roads in Tonkin to permit two-way traffic, and to attain a load classification of class 30 (load classification of class 18 applied in other territories) in order to provide a primary road net called a "maneuver road net."  
- The construction of bridges along these roads to replace existing ferries.
- The paralleling of the bridges wherever possible by less vulnerable pontoon structures.
- Finally, the reestablishment or improvement of all secondary roads which could contribute to operational requirements to a road classification of 18.

The work involved the resurfacing of almost all roads, and this required a huge quantity of construction material which had to be moved by truck. However, even after being resurfaced, these roads could not carry heavy traffic for very long unless a great deal of additional work was done. During the rainy season water seepage through capillary action would result in roadways having a paste-like consistency and this would greatly accelerate their deterioration. The maintenance effort was thus considerable and involved the reopening of heavy equipment parks and the continuing use of many major items: dump trucks, tank trucks, etc. "In fact, the fight against road deterioration was never won because it was necessary to begin with solid road beds. The tonnages required were tremendous and reached totals of three tons per meter of road."  

The crossing of obstacles raised technical problems that were even more difficult. Despite the magnitude of the requirements, the normal bridging equipment initially had to come from France, and this took much time. All that was available in the country was some bridging equipment left by the Japanese and some "Eiffel" type

1 Colonel C, former commander, engineer troops in the Far East.
bridging which was simple and light but was too narrow and had a maximum carrying capacity of only 12 tons. Eventually the situation improved through the arrival of U.S. military assistance matériel. In addition, the Eiffel Company developed for Indochina, at the request of the engineers, the VY metal bridge which could be broken down into small components and which was coming into general use at the end of the war.

Funding limitations often made it necessary to use ferries for heavy vehicles in areas where the regular bridges had inadequate capacity. Ferry access ramps were also built near other major structures which could not be paralleled by floating bridges in order to provide emergency crossing facilities in event the bridge was destroyed.

In the deltas, the wet soils of the banks led to occasional miscalculations, and the preparation of abutments required huge quantities of fill, or an extensive use of piling. "Fixed supports did not always work out. As a general rule, wooden piling is not recommended: first, because it must be transported; second, because it is subject to termite damage; and finally, because one cannot determine in advance how deep it will have to be driven in the wet soils of the rice paddies."¹ Cement piling was therefore used and this could be extended as it was driven in, sometimes to a depth of 25 to 40 m (as was the case for the bridge of Lamha near Haiphong).

In the deltas one also had to take into account the effects of tides which reached up to 150 km into the interior, and which occasionally involved differences of 3 m in the water levels in a single day. "One could not think of changing the abutments each time, and the bridges had to handle these differences in water level. The solution used, which always proved satisfactory, was the floating 'Bailey.' The 'Bailey' pontoons were eventually replaced by ranks of eight to ten U.S. Navy pontoons."² "Reference is also made to the use

¹Report, chief engineer officer in the Far East.
²Or of equivalent material which the engineers had built in Indochina.
of a 60-ton U.S. type bridge with 'Bailey' type members, in excep-
tional cases.\textsuperscript{1}

The rivers were major obstacles. Once their width extended
beyond 250 m they could no longer be bridged, and were crossed most
often with pontoon barges of local manufacture equipped with two
"Tregurtha" type motors. Powerful ferries made up of four pontoons
fitted with four "Tregurtha" motors were also successfully used, par-
ticularly in Tonkin.

It should be noted, however, that the navigability of the rivers
in the deltas varied to such an extent that only a few river craft
were able to provide regular ferry service under all conditions. It
is for this reason that when the flow of a river reached 3 m per sec,
as is the case during high water (for example, on the Red River at Hanoi
between July 1 and September 15), only the LCT of the Navy could move.

The campaign in Indochina permitted the engineers to acquire an
unusual competence in the reestablishment of roads under the most
difficult conditions. By the end of 1952 the engineers could already
take pride in having built 1,800 bridges representing an overall
length of 3,500 m, and of having opened to traffic 4,500 km of roads
and trails. These tasks, carried on concurrently with other infin-
itely varied and equally important work, were accomplished despite a
serious shortage of personnel and many difficulties in obtaining con-
struction material. Thus, the engineers earned the right to say:
"It would appear desirable that a careful estimate of engineer unit
requirements be made for all areas of the French Union which may
become theaters of operation. It is only in this manner that the
engineers, while undoubtedly always at reduced strength, will be able
to quickly play their part with maximum effectiveness, and thus
satisfy everyone."\textsuperscript{2}

\textsuperscript{1}In addition, all permanent bridges, whether fixed or floating,
required extensive facilities to complement the pillboxes built on
the river banks: these included illumination of the approaches to
the bridge; nets or booms upstream and sometimes downstream, to
impede enemy boats or swimmers; metal aprons around supports; and
abutments extending down to the bottom of the waterway.

\textsuperscript{2}Lieutenant Colonel X, former commander of engineers in Tonkin.
Translator's Notes

A In the French Army, the engineer officer at division level and above commands the engineer units assigned, and also acts as the "Director of the Engineer Service." In Indochina this duality of assignment was true at the Commander in Chief echelon; below that level the command of the engineer units as an "arm" was separated from their direction as a "service."

B Load classification classes correspond to the maximum class of vehicle that can use a road. This is most often a measure of the weakest bridge on the road (see Department of the Army Field Manual 5-36).
XXV. THE TRANSPORTATION CORPS

The length and scarcity of the roads\textsuperscript{1} and the abundance of inland waterways (at least in the delta areas) caused the Transportation Corps to modify its organization and the structure of some of its units to better meet the varying conditions affecting transportation. The Indochina campaign thus provided this corps with lessons in flexibility, while confirming once again the need to coordinate all transportation resources.

THE ORGANIZATION OF UNITS

Beginning in 1947 the Transportation Corps had based its organization on that of the territories. A transport service command had been organized within the Expeditionary Corps at Saigon as part of the staff of the Commander in Chief, and in each territory the units of the Corps were under a regional commander. The structure of the various units had also been modified as a consequence of the insecurity of land and inland waterways communications. All units therefore included combat elements, "in order to permit them to defend themselves in the event of attack until such time as assistance could be provided from some external source."\textsuperscript{2} In addition, the signal communications requirements had been computed on the basis of the distances to be covered, and the need to control civilian transportation which was often used in reinforcement.

THE MOTOR TRANSPORT BATTALION

This battalion included, as in France, two, and occasionally three, companies; it was not, however, used as a single unit. Additionally, the headquarters platoon and its associated service elements were quite small and had no administrative functions.\textsuperscript{3} The motor transport company included three or four platoons, and its

\textsuperscript{1} The road net in Indochina was 50 times less dense than that of France.
\textsuperscript{2} Major X, commanding a motor transport battalion.
\textsuperscript{3} Twenty NCO's and drivers.
headquarters platoon provided the administrative nucleus, and also included a security element and a signal communications element.\(^1\)

The security element was equipped with scout cars or half-tracks. "It was broken down into detachments made up of a single vehicle with embarked troop support. There were as many of these security detachments as there were motor transport platoons in the company."\(^2\) Many officers considered this allocation inadequate and recommended two armored vehicles per platoon for a total of nine per company.

"The scout car, which some had recommended on the basis that it was wheeled like a truck and thus had related capabilities, was not favored by the motor transport people any more than it was by the armored personnel. The fact that it was not really a cross-country vehicle and did not operate in mud made it unsuitable for deployment off the road in the event of ambush. Moreover, increased allowances of rifle grenades and light mortars were requested with a compensatory reduction in machine guns (which were difficult to use along roads hemmed in by dense vegetation)."\(^3\)

**MULE UNITS**

Mule units were only of marginal utility because mules "adapt poorly to tropical countries. They suffer from the heat and from the forage, they move with difficulty in dense cover, and they sink in the rice fields. Finally, they do not get along with the natives, who prefer the buffalo or the small horse."

\(^1\)One hundred NCO's and drivers.

\(^2\)Major X, commanding motor transport battalion.

\(^3\)Lieutenant X, platoon leader. As an example of the need for immediate reaction with high-angle-fire weapons there follows the narrative of an ambush that occurred in 1954 where we suffered unusually heavy casualties in a densely covered area.

"At 1300 hours the battalion arrived at the height of X and ran headlong into an enemy force estimated to be of battalion strength and deployed astraddle the road. A violent engagement ensued. At the same time another rebel battalion in well prepared and camouflaged positions some 700 m north of the road opened heavy weapons fire, including rockets, upon the second serial of the convoy. In a few minutes all the vehicles of the second serial were destroyed by the high volume of fire further intensified by the explosions of artillery ammunition."

\(^4\)Report of the chief transportation officer, Army Forces, Far East.
mule companies of the Expeditionary Corps were used to resupply certain posts, and occasionally to lighten the load of infantry columns. Unfortunately the pack equipment available for pack animals was of obsolete model and weighed 30 kg.\textsuperscript{1} New equipment was being worked on by a veterinarian and this certainly would have increased the effectiveness of these pack animals.\textsuperscript{2} The fact of the matter is that "two or three transport helicopters could have easily replaced a mule company."\textsuperscript{1}

\section*{WATER TRANSPORT UNITS}

These received their authorized equipment only in 1951.\textsuperscript{3} Two companies, each with four platoons of eight LCM's, one officer, and 80 men, were organized. All river platoon leaders complained that their NCO's "had not been able to take a Navy training course to familiarize them with what was, to them, entirely new equipment. One often observed coxswains who were unable to keep their boat on course or to beach it properly; as a result LCM's were frequently stuck because their crews were incompetent."\textsuperscript{4} At the same time these platoons often covered 75 to 200 km in one day, each carrying 30 tons; the LCM's were used to transport supplies, equipment and personnel...\textsuperscript{1}

\section*{AIR DELIVERY UNITS}

Initially supported by the airborne forces, these units eventually became independent and received mechanized cargo handling equipment.\textsuperscript{5} Different types of units responsive to the requirements of various headquarters and bases, or intended for the transportation of wounded

\textsuperscript{1}Report of the chief transportation officer, Army Forces, Far East.

\textsuperscript{2}This was the "Proton" model.

\textsuperscript{3}The amphibious truck DUKW was tried in 1948, but did not prove very useful.

\textsuperscript{4}Lieutenant Y, platoon leader.

\textsuperscript{5}They were reinforced with native laborers and had more than 200 trucks.
(medical evacuation companies) were also organized. The mixed companies (comprising a headquarters and a transportation and military police element) were split into headquarters auto companies and headquarters companies proper.

MILITARY POLICE UNITS

The limited road net did not lend itself to the employment of these units on the major roads. They were tasked with special missions; traffic control in vehicle parks and at convoy stops, manning of traffic control posts, regulation of military and civilian traffic, and traffic control in the event of road blocks. "Civilian police assistance was infrequent, and in certain cities important points were held by military police units. A whole platoon was permanently assigned to this duty at the Doumer Bridge near Hanoi." ¹

TRANSPORT OPERATIONS

The insecurity of the roads made the most modest transport operations quite different from what they would have been in France. Regardless of the itinerary or the time of the displacement, this last was never considered as simply a matter of "transportation" but rather as a "movement" to be carried out in an "alert" status. ¹ The procedures for this naturally varied with the degree of subversion within the areas to be crossed.

In the extensive areas with feeble populations and few guerrilla forces, each element on the march was prepared to defend itself; this was the convoy system. In areas where we controlled certain roads during the day ¹ the traffic was either free or directed along certain "secure corridors" which were reopened each morning by territorial forces. The vehicles in this case would move individually or travel in small groups in a continuing flow. Finally, where the enemy could engage significant forces, an event that would occur even in the

¹See the section on control of axes of communications.
areas that we claimed to control, a mixed system was required; security elements were used to cover the road and convoys were armed for self-defense.

The convoys were organized over extended distances (several hundred kilometers), and their vulnerability was particularly apparent in mountainous or wooded areas since there were generally some civilian trucks integrated within the military serials. Experience suggested that the number of vehicles in a convoy should not exceed 100 to 130. Larger convoys were most difficult to control. As an example, "the convoy commander responsible for the civilian vehicles usually left the vehicle park two to three hours after the military serials which normally were placed in the lead. He thus knew little of progress of the convoy and often reached rest stops after the lead elements had already left."  

Large convoys were formed into separate serials and this required additional command personnel and radio communications. "The convoy commander must maintain contact with the head and tail of his convoy and with its security forces...he must be able to warn the sector command...." He may also have to break into the artillery net to talk with the air observers."

The creation of secure corridors would have been preferable, but this was not always possible. This condition depended upon the overall situation concerning the security of axes of communications inasmuch as "road security was the responsibility of designated territorial formations who were to open roads and assure their protection.... A motorized, or preferably armored, sector reserve

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1See the section on operations in wooded areas.
2Major X, motor transport battalion commander, referring to a convoy of 249 vehicles.
3"If 60 trucks on the road can be controlled by a platoon leader, the same rule does not apply when the formation is fragmented into many elements." (Major X, motor transport battalion commander.)
4Major Y, motor transport battalion commander.
was also to be maintained on alert at locations along the itinerary where it could intervene with minimum delay."  

1 The technique of moving vehicles in a continuing stream tended to discourage the enemy in that it provided only limited targets. 

"...to ensure the fullest dispersal, it was prescribed that civilian and military vehicles would move individually or in small groups.  

This technique was referred to as 'a stream of transports.' The main advantage of this device was that, if the drivers maintained a proper interval, it was impossible to destroy the convoy for, in fact, it no longer existed. At the same time this 'stream of transports' had the great disadvantage of demanding the strictest discipline on the part of the drivers, who were already under tension because of their voluntary isolation, this being most acute in particularly dangerous areas. It also allowed the enemy to capture any one vehicle and carry away its cargo. Only two men were needed to stop and capture a truck.... Nevertheless this system of streaming vehicles generally was satisfactory and was still in effect at the end of the war." The foregoing technique did require some degree of area security and moreover it depended upon maintaining a significant volume of traffic since "a road which is not used is a road that is cut."  

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1 Directive on combat operations in Indochina by Commander in Chief, dated March 1954.

2 In Tonkin at the beginning of 1954 not a single "secure corridor" could be guaranteed. This is why at noon on March 12, 1954, a company reinforced by a platoon of half tracks was decimated near Ban Yen Nhan on the road between Hanoi and Haiphong, even though the road had been opened.

3 No more than two to four vehicles per group.

4 For example, along certain roads in Cochinchina.
Security of the waterways was provided in the same manner as for the roads. However, a "secure corridor" was only possible on the Saigon, Mekong, and Bassac Rivers and only occasionally along certain segments of the Red River.\(^1\) Everywhere else the use of convoy formations was required.

"In Central Annam and in Tonkin the Transport Corps LCM participated in many operational movements. On such occasions they were integrated within a Navy formation and the convoy was organized as follows:

- A minesweeping element.
- A large fire-support ship.
- Army and Navy LCM's and Navy LCT's.
- A large fire-support ship.
- A screen of small boats around the convoy.

It happened on occasion, particularly in Central Annam, that Army LCM's alone carried out operational movements. But even on such occasions it was necessary to include some small patrol craft or M2 boats to reconnoiter difficult areas (shoals, etc.). This augmentation should be formalized."\(^2\)

**GENERAL TRANSPORT ORGANIZATION**

"Transport unit commanders were not, as in France and North Africa, also the staff transport officers. These latter duties were discharged by a transportation section within each major headquarters. The transport unit commander assigned an officer to the transport staff section. This officer, usually one of the best available, permitted the transport unit commander to virtually control all transportation on the roads and waterways. Nevertheless, this organization was often criticized in transport circles for its adverse impact on morale. Admittedly, it is not normal that a

\(^1\) The runs between Saigon and Cap St. Jacques (Vung Tau), Saigon and Phnom Penh, Saigon and Mytho, and Saigon and Kracie were sometimes used daily.

\(^2\) Report of the chief transport officer in Indochina.
colonel or lieutenant colonel commanding the transport within a territory should, in theory, not be able to move a single vehicle without the approval of a major or captain in the staff transport section, or should be considered incapable of handling river transport in Indochina."\(^1\)

However, any other arrangement would have been illogical because the problems which had to be resolved, most often in haste, were complicated by the distances to be covered, the numbers of people or the tonnages to be moved, and the general insecurity that prevailed. It was therefore necessary to use, without discrimination, units belonging to the Navy or Air Force, \(^2\) and insofar as the Army was concerned, it was always necessary to get the most out of the resources which were always inadequate in the light of the magnitude of the requirements. The problems were not only technical either. It is essential to remember that the transportation resources were the means whereby the Commander in Chief could express his will since the term "maneuver" to him meant the ability to move reserves from one point to another in Indochina. One example will suffice to reveal the flexibility which was required to counter certain Viet Minh activities.

When the enemy offensive began on December 22, 1953, in central Laos, and his forces quickly threatened to cut the Mekong River, it was necessary to move troops from Tonkin and South Vietnam to Seno. These movements were accomplished as follows:

- By air from Haiphong to Seno in a period of six days: five parachute battalions, two airborne artillery batteries, and one collecting and clearing section.
- By air from Lak Sao to Seno in one day: one Moroccan battalion, one artillery battery, two Laotian infantry companies, one transport element.

\(^1\) Report of the chief transport officer in the Far East.
\(^2\) Either directly or through service channels.
o By sea from Haiphong to Saigon in six days: one mobile group.

o By road from Saigon to Seno in five days, the foregoing mobile
group reinforced by a maintenance platoon and a police detach-
ment.

o By river, then by road, from Kratie to Seno: one tank platoon
(six days by river and three days by road), one mobile group
in three stages.

The foregoing display of acrobatics was certainly facilitated by
the fact that the staff transport officers lived the battle within
the headquarters and were perhaps better able to appreciate the
urgency of the requirements than if they had been in a separate
transport command. The same imperatives appeared, although perhaps
to a lessened degree, within the Territorial Commands. This suggests
that a transportation section should be included within a headquarters
staff or should at least work in its immediate vicinity and in close
liaison with it. Additionally, the officers assigned to this section
should either have had joint training or, better yet, should repre-
sent the three services.

In summary, the campaign in Indochina permitted the Transportation
Corps to uncover solutions to a number of novel problems. Some of
these solutions may well be applicable in other theaters of opera-
tions, particularly as they relate to air transportation. Finally,
all the techniques devised to provide security for road transport
must be retained, for in areas subjected to guerrilla actions they
remain valid.
XXVI. THE SIGNAL CORPS

"The organization of the Signal Corps and the manner in which signal communications were used in Indochina conformed to normal practices, as did the overall command organization that it served. Accordingly, these nine years of operational experience have only confirmed lessons learned in previous campaigns."¹

From the view of utilization, a number of interesting comments can be made arising from the importance attached to military signal communications in a country where there was almost no commercial communications system. However, it is in technical matters where the main lessons are to be observed, since Indochina was a testing ground for a great deal of equipment placed in operation under unusually severe conditions. Indeed, some of this equipment was not in service in France, or if it was, the allowances there were very modest.

ORGANIZATION OF SIGNAL COMMUNICATIONS

The overall Signal Corps organization was related to that of the Territorial Command structure and proved eminently satisfactory. It consisted of:

- At the Commander in Chief echelon: a signal communications command, a signal communications equipment directory, and a general reserve signal battalion.

- At each Territorial Command: a signal communications command, a signal company or battalion providing all territorial communications,² and a signal communications equipment detachment, which in some areas was a large facility.

Signal communications personnel did not exceed 5,800 men at the end of the war, or about 3.6 percent of the Expeditionary Corps. However, to attain this figure the Corps had to overcome personnel

¹Report of the chief signal officer.

²"Experience confirmed the wisdom of grouping all territorial signal communications into one unit when tactical considerations so permitted." (Report, chief signal officer.)
problems that could not be resolved by sole recourse to resources in France. It was necessary to call upon personnel from other arms at an early date, and when this expedient proved inadequate, the training of native personnel was undertaken. "In addition to general duties, the Vietnamese turned out to be excellent radio operators, and the Moroccans, whose prowess at hard labor was already well known, showed a high degree of competence in the laying of underground cables and in soldering work." 

Insofar as availability of equipment was concerned, the early deficiencies were quickly met, and all requirements continued to be satisfied, despite their magnitude. Thus, for example, at the end of the war in Tonkin alone, there were 1,000 radios serving Territorial Commands and 4,000 more in the hands of operating units. In sum, it was always possible to meet the supply and maintenance requirements.

**UTILIZATION**

The problems which the Signal Corps had to resolve were due in part to the adverse climate, and in part to the inadequacy of basic facilities in the country, as well as to the unusual character of the war. The humidity and heat were particularly debilitating to personnel and equipment. Thus it was necessary to air condition certain communications centers. This is the only way to ensure a high output from the personnel and the proper operation of equipment, even that which might have been "tropicalized." This becomes evident when the high volume of traffic is considered. The communications center for the Commander in Chief in Saigon, for example, handled an average of 3,500 local radio messages and exchanged 100 to 200 messages with Paris each day. A subordinate communications

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1 Note should be made of the excellent service rendered by female personnel.
2 Report, chief signal officer.
3 In a territory with relatively few forces, such as South Vietnam, there were 350 radios for the area forces, and 450 in the operating units.
4 There was a total of some 10,000 radios in use in Indochina. It was unfortunate that a cold storage facility for batteries was not available, since the supply of this item was never satisfactory.
center, such as the one in Hanoi, (Headquarters, Army Forces, North Vietnam) handled about 1,600 messages per day. Moreover, the almost complete absence of commercial communications forced the Expeditionary Corps to use its own resources to satisfy virtually all communications requirements, both civilian and military. The problem of tying military communications into a commercial system did not arise. But, while this had the advantage that the system used was homogeneous, it did magnify to a considerable extent the responsibilities of the chief signal officer.

The fixed location of major headquarters within well defended areas and the absence of any enemy aviation or long-range weapons permitted extensive use of heavy equipment and large antenna farms without concern that the vulnerability of such installations might result in an interruption of service. Indeed, it was often preferable to concentrate a communications facility in a small area, since this would simplify its defense against possible surprise attack or raids by enemy commandos. This type of arrangement did result in certain technical difficulties, but it greatly simplified operations, particularly those of the communications chief.

The general insecurity that prevailed caused the virtual abandonment of communications by wire or messenger. This placed an unusually heavy burden on radio communications, and while radio was able to compensate for the lack of wire communications largely through the use of VHF, it could not also satisfy the requirements normally met by motorcycle messengers. This led the chief signal officer to comment frequently that he wished he had some aircraft, or better yet some helicopters, to forward the mass of papers which could not be sent over the air.

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1To these figures should be added voice traffic, which was always very high.
2As contrasted to the situation in Europe, where commercial communications circuits relieved military communications of a heavy load, particularly in telecommunications.
3There were nevertheless certain difficulties due to broken antennas.
4Interference between different transmitters.
Contrary to what would have happened in an European theater of war, the expansion of radio communication in all of its many forms only rarely resulted in frequency interference. This problem was avoided primarily because there were few units engaged on either side at any one time, and also because the radios could work on relatively low frequencies.\footnote{1} Additionally, because supplies were ample, it was possible to provide units with more radios of medium power output than were normally authorized to units in France. Finally, extensive use was made of communications relay systems.

The best example of the results obtained in the field of signal communications support is that of the uninterrupted contact with the garrison at Dien Bien Phu. Despite the distance involved and the continuous bombardments, it was possible to pursue conversations with the commanding general\footnote{3} and his staff until the very last minutes of the battle. The tapes made of these final exchanges constitute the first such documentation in military history.

In conclusion, the Signal Corps was able to overcome technical difficulties, and it provided a highly flexible support organization. This was always able to meet the needs of commanders despite some debatable requests, and despite the occasional lack of radio discipline displayed by some officers. However, it should be emphasized that the "ease" of communications enjoyed by commanders at all echelons may have made them more demanding, and may also have caused them to lose sight of the fact that effective communication is as much due to discipline in its employment as it is to technical performance.

\footnote{1}{Tonkin, in particular.}
\footnote{2}{The ANGRC 9 was an excellent radio, according to all reports.}
\footnote{3}{Commanding general, northwest operational group.}
XXVII. AIR SUPPORT

The complete absence of enemy aviation and his limited antiaircraft weapons capability up to the last few months of the war resulted in an unusual air support situation. Under these circumstances the lessons to be derived from this experience have limited scope, since all we could do was assess the maximum effect that could be obtained from fighters and bombardment aircraft operating against mobile infantry.

Air operations, those of both the Air Force and the Navy, were always hindered by a number of factors. First, there were the climatic and geographic characteristics of Indochina, which have already been covered elsewhere. The navigation problems that ensued were aggravated by the fact that weather forecasting was unreliable, because no information could be obtained from China. In addition, the maps of Indochina were inaccurate for many areas, and elevations were occasionally in error. A number of accidents resulted from a misinterpretation of the relief, and some missions were aborted because of incorrect use of reference points.

Second, the modesty of our resources in relation to the requirements, and the limited ground facilities, concentrated for the most part in the deltas, did not permit effective operations over the whole of the theater. ¹ The ranges of our combat aircraft did not permit coverage of all of Indochina from any one central base area. This required that aircraft be based within the area in which they were to operate. Thus, all deployments involved the occupation of different air bases, and in most cases this meant building new ones.

The characteristics of the enemy have already been described. His strict camouflage discipline, his dispersed dispositions, his primitive

¹The demands for the protection of air bases against raids and harassment from the Viet Minh must not be lost sight of. Details on this problem are to be found in the section dealing with the defense of critical areas.
logistics system, and his predilection for night movements—all combined to provide the Air Force with scattered and fleeting targets. As a result there were few truly rewarding operations. In this connection, it would be well to review the conclusions that were drawn from the 1939-1945 war concerning the possibility of movements by ground forces who do not have air superiority.

The relative importance of the foregoing factors varied in the course of the war. The development of our ground facilities gradually extended our operational capabilities, and our units also increased during the last year of the war. Figure 23 illustrates the growth of our air potential and the relation between air and ground operations.

In this same period, the enemy's power also increased. This provided a greater number of targets and a consequent increase in air support missions. In addition, the enemy's ability to strike back, which was insignificant in 1946, became ever more serious as the numbers of antiaircraft weapons provided by the Chinese grew. In short, a periodic review of our air capabilities was required, and the battle of Dien Bien Phu clearly demonstrates the contrast between what we thought we could still accomplish, and what our aviation was actually capable of doing.

"Our air superiority was in fact a myth, and this term so frequently used was meaningless. Our aviation certainly did not have to engage an enemy in the air, but the battle of Dien Bien Phu had imposed requirements that our resources could not satisfy. Distances, topography, climate, command organization, infrastructure, enemy tactics—all of these factors together served to diminish in tragic manner the effectiveness of an aviation whose strength was already very modest."

ORGANIZATION OF THE AIR FORCE

The numbers and types of aircraft varied greatly during the nine years of war. Fighter units were first equipped with Spitfires, which

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1 Study by Army Forces, North Vietnam, on air support in North Vietnam.
Fig. 23—Comparison of total air activity for the years 1952 - 54
did poorly in the tropics. These were followed by the King Cobra (P-63), then the Hellcat (F-6F), and finally these were, in turn, replaced by the Bearcat (F-8F), which remained until the end. There was only two squadrons at the beginning of the war. These were followed by a third and then by a fourth. All were equipped with 20 aircraft, and during the final phases of the campaign these were based at Tan Son Nhut in South Vietnam, at Tourane (Danang) in Annam, and at Bach Mai and Cat Bi in Tonkin.

There were no bombardment aircraft available during the first five years of the war, and until 1951 old Junker 52’s were used to drop bombs. The low speed and limited range of these aircraft, which were primarily used for transport, permitted their use for bombardment only in unusual emergencies. The decision to organize bombardment squadrons was taken in October 1950.

- The first squadron (1/19 Gascogne) was organized in February 1951 (Tourane).
- A second squadron (1/25 Tunisie) was organized in March 1952 (Cat Bi).
- A third squadron (1/91 Bourgogne) was organized in June 1954 (and disbanded in November).
- A fourth squadron was being organized at Tourane when the war ended.

All of the above units were equipped with the B-26, whose characteristics were well suited to the requirements of Indochina.¹ In May 1954 a bombardment group was organized that, despite its late appearance, permitted techniques to be standardized, allowed the training of the different squadrons to be centralized, and was able to provide official information on all questions dealing with operations.²

¹There were two models of these. Flight leader aircraft had a plexiglass nose compartment for the bombardier, while the other model had a solid nose, and fired on signal from the leader.
²Bomb tonnages dropped by both bombers and fighters were: 834 tons in 1949, 3,004 tons in 1950, 8,621 tons in 1951, 9,361 tons in 1952, and 12,802 tons for the first seven months of 1954.
Reconnaissance units used the several types of aircraft available in Indochina. In the latter phases of the war two specialized formations were organized, and these were equipped with the F-8F and the RB-26, which proved quite satisfactory insofar as their employment was concerned. These formations rendered great service, but the requirements for aerial photography grew to the point where they could no longer be met.

The growth of transport aviation has been covered in the section on airborne forces. The four squadrons that existed at the end of the war were equipped with the C-47 and had received an augmentation of C-119's in the last months of the war. Finally, there were two units of light aircraft to meet a variety of liaison type missions. These were equipped with many different types of aircraft (Siebel, Nord 1000, Morane, Beaver, etc.).

**NAVAL AVIATION**

Naval aviation participated throughout the war with shore based units, and for extended periods of time with carrier-based aircraft. Beginning in 1945, naval aviation was placed under the operational control of the Air Force, and continued under this arrangement throughout the war. Initially, squadron 8 FE, equipped with Catalinas, and squadron 8S, equipped with captured Japanese aircraft and the Loire 130, were based in South Vietnam.

The Catalinas were used primarily for coastal patrolling to interdict supplies moving to rebel zones from the sea; this was a veritable blockade organized to cover the approximately 2,000 km of coast held by the Viet Minh, whose junks tried to penetrate our seaborne screen with contraband weapons from China and Thailand. The Catalinas operated both day and night, and, when their obsolete radars permitted, they scanned the sea areas and reported all suspicious traffic to the floating units. This cooperative system was

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1Transport aviation was frequently augmented by civilian transport aircraft operating in Indochina.
quite effective, and the seizures of enemy craft in the early days were highly rewarding. As a result, enemy traffic along the coast was considerably reduced, particularly during the day.\textsuperscript{1,2} The Catalinas were also used for long-range reconnaissance, and on occasion served as flying command posts for certain operations.

In 1948 squadron 8F\textsuperscript{3} received an excellent aircraft, the Privateer, which was used to the end of the war for long-range bombardment missions because of its range and bomb-carrying capacity. During this same period, Squadron 8S was equipped with Catalinas and later with the Grumman Goose. A new squadron, 9S, organized in 1950, was similarly equipped. \textquoteleft\textquoteleft The Grumman Goose became a veritable light support aircraft, engaging in a wide variety of missions: this, despite the fact that it was a poor seaplane, and did not handle well on the ground, as indeed no amphibian aircraft do.\textquoteright\textquoteright\textsuperscript{1} In any event, they were useful in Cochinchina and along the coast of Annam.

The three squadrons discussed above were reinforced during the last three months of the war by two other formations; one, from France (24F, equipped with the Privateer), was based at Tourane, and the other, from Tunisia (14F, equipped with the Corsair), participated in the final phases of the battle of Dien Bien Phu.

\textbf{CARRIER-BASED AVIATION}

\textquoteleft\textquoteleft As long as our carrier units were poorly equipped, and the hostilities were limited, our carriers were only intermittently used in Indochina.\textquoteright\textquoteright\textsuperscript{1} The Dixmude and Arromanches served two tours and one tour respectively in Indochina between 1945 and 1951. During the last three years of the war the Lafayette, Bois Belleau, and Arromanche together made five tours, each with two squadrons aboard.\textsuperscript{4}

\textsuperscript{1}Official History of Naval Aviation in Indochina.

\textsuperscript{2}Later, \textquoteleft junk hunting\textquoteright was shared with the Air Force. This halted most of the coastal traffic and resulted in the destruction of most of the Viet Minh boat potential.

\textsuperscript{3}Which eventually was redesignated as squadron 23F, and was based partly in Tonkin and partly in Cochinchina.

\textsuperscript{4}The squadrons averaged two tours. Thus the following squadrons participated: 1F, 3F, 9F, 11F, 12F, and 14F.
These were equipped successively with Helldivers, Hellcats, and Corsairs. "Carrier aviation operated generally when weather conditions interfered with operations from shore bases and when carriers could compensate in some measure for the bad weather.\(^1\) Low-altitude controlled penetrations were frequently practiced. Operations were normally carried on for three weeks followed by one week for resupply and for maintenance of carrier-based aircraft."\(^2\)

**Command and Air Support Organization**

The basic organization of the air effort had to respond to the geography of Indochina and this, of necessity, resulted in three separate commands: North, Center, and South. Obviously the creation of three separate aviation commands could not be justified until sufficient resources were available.\(^3\) In 1950 three tactical air groups were organized, which were equivalent to tactical air commands in Europe except for the fact they were at reduced strength. The tactical air groups theoretically did not have any organic air elements, and the Air Command in the Far East varied force allocations as required by the Commander in Chief. There were, in fact, few changes in these allocations, and the Air Command also retained some control over certain formations.

The three tactical air groups were responsive to the three Territorial Commands, but in practice their operational areas extended far beyond the ground commanders’ areas of responsibility. The units controlled by the Tactical Air Group, South (supporting the Commander, Army Forces, South Vietnam) operated not only in Cochinchina and along the southern coast of Annam, but also in Cambodia. The units controlled by Tactical Air Group, Center (supporting the Commander, Army Forces

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\(^1\) These periods coincided with the winter in Tonkin, i.e., the period of major operations.

\(^2\) *Official History of Naval Aviation in Indochina.*

\(^3\) This was a purely operational organization. For administration and logistics Air Force units depended upon the Commander, Air Force, Far East, in Saigon, and the naval air units depended upon the Commander, Naval Forces, Far East. The tactical air group in Tonkin nevertheless controlled logistic support for all units in North Vietnam.
Central Vietnam) operated not only in Annam, but also in the plateaux areas, and in south Laos. Finally, the units under the Tactical Air Group, North (supporting the Commander, Army Forces, North Vietnam) operated in Tonkin as far as the Chinese border, and into northern Laos. Despite this last, the situation in 1953 led to the creation of a Tactical Air Group, Laos, but this had only a temporary existence.

The permanence of the ground and air forces’ headquarters and their proximity permitted close liaison insofar as materiel was concerned. Moreover, the personal relations that developed among officers of the two services contributed materially to the effectiveness of air support in the whole of the command.\(^1\)

The procedures used to request air support, confirm the requirement, and execute the mission varied with the location and the circumstances. This multiplicity of practices, all intended to improve flexibility, suggest one important lesson. No one organization need be taken to task here since all were unfortunately provisional, but the point is that personnel must be trained to follow regulation procedures exactly. This is the only way to ensure effective support. This can be appreciated in the case of Indochina where the dispersal of ground formations made for the decentralization of air support request procedures. Thus, independent battalions or isolated posts were authorized direct requests for such purposes. In such instances, two techniques proved effective: one was the use of light observation aircraft, and the other was the establishment of an "emergency radio net."

\(^1\)An Air Force colonel summarized in a humorous manner the need for a mutual confidence that would contribute to the elimination of the apprehension that certain aviators had about their ground forces associates:

"The aviator is a jealous animal who won't take off unless he is ordered by another Air Force officer and, for love of service, is perfectly willing to be stubborn about this. Thus it is in connection with fire support matters that our headquarters have the most difficulties in understanding one another.

"The infantryman, for his part, wants to see air working at the level of his whiskers in the same way as, between the two wars, he wanted tanks to work with the initial assault waves. We are willing to do this for our friends when they are in trouble, but please don’t ask us to work over targets within range of artillery which is in position. In any event, such employment of air is a violation of regulations."
Morane observation aircraft frequently forwarded requests directly to the tactical air group. This permitted prompt reaction and minimized the effects of possible communications failures. This practice should be continued, particularly for operations involving the control of large land areas. In the other case, posts or mobile groups could pass requests directly to the tactical air group by using the "emergency radio net" which permitted them to bypass the usual air support request channel. This saved a great deal of time, and the knowledge that air support was on the way provided an immediate boost to a unit in difficulty.

Such decentralization was only made possible by the added training of personnel so that qualified officers could be assigned to the mobile groups or area commands at sector level. This also required that communications be improved. These were rather poor initially, but by the end of the war they had become excellent.

**TYPES OF MISSIONS**

Our air forces did not have the problem of gaining air superiority. They could thus devote their full attention to the following: independent operations, direct and indirect fire support missions, reconnaissance, and transport support.

**Independent Operations**

Such missions, which in a European war would have involved the destruction of the enemy's potential, were not justified in Indochina before 1953 in view of the primitive nature of the war economy and logistic system of the Viet Minh. Then, beginning at that time, the growing traffic from China and the creation of numerous supply installations provided increasingly lucrative targets. However, the need to provide maximum support for a worn infantry and to help reduce its casualties led the command to continue using the bulk of its air

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1. Courses for this purpose were given several times a year by the tactical air groups.
resources in direct support missions. As a result, the tactical air groups seldom had available the aircraft required to attack the targets that aerial photography revealed along the roads coming from China.

Plans were nevertheless made periodically for such missions in conformance with priorities established by the Commander, Air Force, Far East. The target lists were then drawn up by the tactical air groups, these being changed frequently to throw off Viet Minh intelligence.

The interdiction of roads of major importance to the enemy required a considerable effort just to block one or two critical points. Attacks were directed along roads cut into the sides of the mountains rather than against bridges that could easily be rebuilt. Such attacks had, of course, to be followed up by harassing strikes to keep repair crews from restoring traffic. The tonnages of bombs required, the appearance of Viet Minh antiaircraft weapons at critical points, and the increasing numbers of laborers available for road repairs made these missions increasingly more difficult and less effective. Some officers suggested that "it would have been better and cheaper to concentrate the effort and block only a single point on each major road, and then keep this from being repaired." Such an interdiction could have been carried out by single aircraft returning at frequent but irregular periods to drop new bombs on the road repair crews.

Our intermittent attacks did force the enemy to use alternate routes, to move at night and thus more slowly, and to use increasing numbers of laborers to repair roads. But, it must be admitted that his essential communications were never seriously interrupted, and consequently, the effort never was a decisive factor in affecting his offensive buildup.

1 The enemy also often used rafts.
2 Thirty to forty bombs dropped either from level flight or in a dive were needed for one roadcut.
3 Report of Naval Air Squadrons 3F and 11F.
The attack of enemy vehicle parks and supply depots depended upon a careful analysis of aerial photographs, because these targets were always well camouflaged and dispersed either under trees or in caves. Additionally, their extent was generally ill defined with the result that the area to be bombed was usually large and required substantial treatment (98 tons of bombs for Tuan Giao). The results obtained in these cases were highly varied, often misleading, and always incomplete, when considered in relation to the difficulties of such missions.

The destruction of targets bearing on the economy (dams, irrigation canals, etc.) was not technically difficult, but required at least 2,000-lb bombs, and these could not be carried by the B-26. The 1,000-lb bombs that had to be used therefore could only accomplish part of the desired effect. In this connection, the dispersal of Viet Minh resources did not permit the delivery of telling blows against the enemy economy. "We did try to destroy his bazooka and munitions factories.... Others advocated the destruction of the charcoal industry, which was considered to be a key industry; but the results were always deceptive. The bamboo shacks that agents would identify as important armaments shops were often nothing more than storage places for four or five hundred grenades...."¹

**Fire Support**

The inability to determine those areas where our ground forces would encounter the enemy made it difficult to select targets in advance, and it was most often necessary to think in terms of targets of opportunity. Preplanned air support was therefore seldom used. Priority requests for close air support were, in the great majority of cases and particularly in the Tonkin delta, satisfied with little delay. In fact, some aircraft were kept on a 10-minute ground alert,

¹ Colonel X, Air Force.
and all aircraft returning from missions could be diverted by the Moranes for strafing attacks.¹ Evidently, under these conditions, it was difficult to relate the ordnance to the target. Also, indirect fire-support missions or preplanned strikes were based upon predetermined types or ordnance...thus when a priority close air support request was received, all that could be done was to hope that the ordnance was somewhat compatible with the nature of the target.

Close air support was first of all available for formations in static positions (notably in cases where a post was under attack). In such situations the location of friendly forces was well known, and the garrisons were often capable of providing accurate information on the location of the enemy.² The air attacks could thus be directed close to friendly troops and against the most threatening enemy formations. In any event, information provided by the observation Moranes was always useful, particularly in situations where the close air support was to be continued by a succession of flights.

In contrast, when it was a question of providing support for mobile forces in the course of an operation, the problem was far more difficult. The mobile groups normally carried out enveloping maneuvers and it was therefore impossible to prescribe bomb safety lines. The air crews thus had to know the terrain ahead of time and had to receive precise information on the general situation and the intentions of the friendly forces. Under these circumstances it was almost always essential that the close support strikes be directed by the Moranes despite whatever information could be provided by the air liaison officers with the mobile groups since these were generally too far from the enemy to be able to identify with any degree of accuracy the locations of his strong points.

Most often the Viet Minh infantry constituting the target was concealed in the vegetation or dispersed in the rice paddies. Thus

¹Some B-26's flying in shallow dives were also used.
²Air request forms made provisions for this.
finding a column (or an assault formation) in open country was most unusual. In any event, under these circumstances strafing attacks were usually best. However, in cases where the enemy was under cover, it was essential that the ordnance conform to the nature of the cover. This question of ordnance was studied for a long time, and did not produce significant results until toward the end of the war. The best munitions apparently were napalm and the 260-lb fragmentation bomb.

The Viet Minh quickly found ways to protect himself from napalm, but this continued to be used because it could be dropped close to friendly formations. Indeed, some well trained pilots were able to drop napalm within 100 m of friendly formations without danger to them. In addition, the burst of flame, which lasted from one to two minutes, made it possible to gain an objective before the enemy had time to react.

When it was necessary to attack a village, which meant caving in tunnels and field fortifications, bombs of 500 and 1,000 lb were required. "In fact, two bombs of 500 lb were more effective than a single one of 1,000 lb. Few targets were suited to rockets. Insofar as fuses are concerned, priority should go to those of short delay, which are always useful regardless of circumstances. Unfortunately, the quality of these fuses often left much to be desired (many were faulty). In the same way, the VT fuses were unreliable." 3

The infantry was unhappy over the fact that security restrictions precluded the use of bombs within 1,000 m of friendly troops. When bombs were used they therefore asked that this be followed by napalm or strafing attacks so that they could close on the objective. When

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1 The reduced importance of strafing is indicated by ammunition expenditures. In 1949 some three million rounds were expended by two fighter squadrons, while in 1952 a total of 5,667,000 rounds was expended by all formations. For the first seven months of 1954 only three and one-half million rounds were fired.

2 In 1950, when napalm was first used, only 16 tons were dropped. In 1951, 1,685 tons were dropped, and in the first seven months of 1954 3,741 were expended.

3 Report of Naval Air Squadrons 3F and 11F.
this could not be done, it was then necessary to resort to artillery
to continue the neutralization along the periphery of the village
being attacked.

The lack of accurate information of the enemy, coupled with the
mobility and flexibility of his formations, made indirect fire support
relatively ineffective, and it was used far less than direct support.
Indirect air support requests were submitted to the tactical air
groups with indications of target priorities and time schedules.
Unfortunately, the tempo of operations often caused the staffs within
the air support centers to change targets at the last minute. Under
these circumstances it was frequently impossible for the tactical
air groups to properly relate the aircraft available to the ordnance
required to execute the desired mission. Fortified villages and
supply bases were targets best suited to the B-26 or to the Navy's
Prowlers. But the time required to load these and get them to the
objective often led to the use of fighters instead. These admittedly
were able to effect highly accurate strikes.

Air operations at night in support of a beleaguered garrison
required the use of C-47 flare ships (Luciols), whose practical utility
and favorable psychological effect upon the ground troops was undeniable.
However, any conclusions concerning the use of such aircraft should
take into account that the increase in Viet Minh antiaircraft capa-
bility might eventually have made their use impossible. In the
months immediately preceding the end of the war, Viet Minh anti-
aircraft defenses became increasingly threatening. This was evident
in the battle of Dien Bien Phu, where the feebleness of our air
support, although due to a number of reasons, was primarily the result
of the volume of antiaircraft fire in the airspace over the base area.

The techniques used for countering the enemy's artillery, which
were derived in part from the experience in Korea, proved to be

\(^1\) Note need be made of the counterbattery missions carried out by
the two battalions of 105's and the 155-mm battery of the garrison.
ineffective largely because of inadequate numbers of aircraft. This experience contains a lesson. It is necessary to subject the whole of the enemy's artillery position area to heavy and continuing bombardments because it is very difficult to locate individual positions. The widespread use of napalm did not appear to yield appreciable results, perhaps because in this case an effort was made to cover too great an area.

Insofar as the use of fighter aircraft is concerned, the following valid point should be retained: "Viet Minh antiaircraft weapons were never attacked except by small formations or single planes sacrificing themselves to well trained gunners. Before attacking a target covered by AAA it is necessary to ensure its saturation:

- When visibility is good, by use of a strike of at least 20 aircraft attacking at the same time from different directions.
- When visibility is poor, by use of a succession of attacks at short intervals.

The 20-mm guns are effective for strafing villages and supply depots, but they are more of a liability than an asset for attacking 50-caliber antiaircraft batteries. Finally, and above all, "Attack aviation must be more modern than the enemy's antiaircraft defense! Jet aircraft were required in Korea as they would have been in Indochina if the war had continued along with an improvement in enemy antiaircraft capabilities and the probable appearance of hostile air."¹

Reconnaissance Support

The utilization of light observation aircraft has been covered elsewhere. Aerial photoreconnaissance, which was the task of the two formations organized in the final years of the war, was difficult because of the climate and dense ground cover. The work of the photo interpretation sections was thus unusually difficult and often

¹Report of Naval Air Squadrons 3F and 11F.
misleading. Additionally, the appearance of the delta areas varied with the season, and the basic photo coverage (1/25,000) had to be
done twice: once during the rainy season and once during the dry
season. As far as point missions were concerned (posts, bridges,
crossroads, sections of road, etc.), these were so numerous that it
was never possible to satisfy all of them.\footnote{The total of 16,000
reconnaissance flight hours flown in 1951 appears tremendous compared
to the flight hours logged by transport and combat aviation. This
disproportion is evidence of the fact that the Viet Minh is always well
camouflaged, and it takes a great effort to find him (Colonel X, Air
Force).} In conclusion, one
should admit that unreliable information and transient opportunities
probably led to frequent attacks on targets that no longer existed.
Nevertheless, air attacks were the bane of the Viet Minh, and even
General Giap held that "they disorganized the battlefield."

In any event, ground forces tended to demand the utmost. They
grow to depend upon air support at all times and in all places. This
attitude often led to a paralysis within the infantry whenever air
support could not be provided, either because the resources were not
available, or because bad weather would not permit its use. The
aviators, for their part, considered that the High Command should
not have allocated almost all of its resources to the close support
effort and retained only a negligible fraction for independent opera-
tions. They held that during certain periods there would have been
a far greater return from the air forces if these proportions had
been reversed, and that the inadequacy of air resources should not
prohibit the execution of certain "strategic" missions. Finally,
the supporting infrastructure basically determines how aviation will
be used in a theater of operations. The effort to improve this
infrastructure was naturally related to funding, but this was under-
taken too late. As a result, the Air Force still did not have
available, at the end of the war, a coherent network of airfields.
XXVIII. THE RIVER FORCES

The river forces of Cochinchina and of Tonkin were conceived during the period of the conquest, but lessons learned during that time were forgotten by 1945, when the 2nd Armored Division arrived at Saigon with its tanks but without any floating equipment. The first operation directed at the recapture of My tho suffered from this omission because a large number of bridges had been cut and no engineer troops were available. Thus, when the tanks arrived at the approaches of the city, the city itself had already been occupied 48 hours before by troops that had come by water.

This first operation, and those that were to follow toward Vinh-Long and Can tho, could not have taken place without the assistance of the Royal Navy, which had made available a certain number of LCI's. This made it imperative to utilize such craft as were available locally, either from native sources or left by the Japanese, and to modify these with the required armor and armament. At the same time some LCI's and a small number of LCA's and LCT's were received from the British. The heterogeneous force thus created was manned by personnel from both the Navy and the Army, and was committed in piecemeal fashion to support Territorial (zone, sector, subsector) or Operational (battalion, company) Commands. At the same time, in order to provide bases for these various elements, Navy river posts were created that would, in time, become the military ports of the inland waterways. Following this first phase, which was essentially one of improvisation, was a period of deliberate organization during which the two problems that had to be faced every day during the conduct of operations were resolved. These problems were:

- The necessity to have craft permanently available for transport to satisfy the logistic requirements of forces dispersed over the delta.
The obligation to ensure freedom of movement on the principal waterways, and to conduct frequent amphibious operations.

The Army gradually took over a number of transportation missions and created for this purpose a certain number of river flotillas manned initially by Foreign Legion troops and later by service troops. In addition, the Army participated in patrol missions and organized river patrol units made up of personnel from its armored force units.

The Navy focused its efforts on the creation of a combat organization closely adapted to the conditions that were peculiar to the struggle. By 1946 the Navy had organized river flotillas, and these, in 1947, were designated as naval assault divisions or Dinassauts. This latter original concept responded to the need of having an organization that not only reflected a proper balance among various types of craft, but also provided the means to transport relatively large landing forces while at the same time being capable of furnishing them with fire support. This last concern had appeared from the very first months of the campaign, when improvised craft, strongly armed and protected, were used to move troops on insecure waterways. These were the armored boats. The composition of the Dinassaut changed in time, and also differed somewhat depending upon the areas where it operated, but in general it conformed to the following principles: "The naval assault division was actually a tactical grouping of river craft including: (see Fig. 24)

- A command and fire support ship, usually an LCI
- A ship or craft suitable for the transportation of troops and equipment, usually an LCT

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1 See the sections on the Transportation Corps and the Armored Forces.

2 One of them, transporting a company from the 3rd Battalion of the 43rd Colonial Infantry Regiment cleared its own way on the waterways leading to Camau at the time of the offensive on that town.

3 Study by Colonel X, which appeared in 1951, *Amphibious Operations in Indochina*. 
Landing and support type craft, usually two LCM's and four LCVP's, the latter grouped into two sections of two LCVP's each

One patrol and liaison craft, usually a harbor patrol boat type 1

"In addition, when adequate personnel were available, the Dinassaut included a small landing force (commandos from the Navy or a company of infantry). Depending upon requirements, the Dinassaut could be reinforced or lightened if operations were to be conducted where waters were particularly shallow. Thus organized, the naval assault division was capable of: (1) providing for the transportation and the landing of a force of approximately battalion strength with its equipment, and (2) supporting by fire the operations of this force once ashore, at the same time ensuring the control of the waterways.

"The transportation mission, which normally fell to a Dinassaut, was essential for concentrating and deploying the forces during the initial phases of an operation. However, this transportation mission was not intended to absorb all of the attention of the Dinassaut to the detriment of possible tactical missions.

"A good deal of transportation could be provided by local craft, or by craft assigned to the various sectors. In this manner, the craft of the Dinassaut remained available for assignment to tactical missions such as patrolling, raiding, and fire support incident to the conduct of the operations themselves."

In Central Vietnam a different approach was required because of the local hydrographic conditions. "The concept of the Dinassaut covering a large area and moving from one river post to another was not applicable along the coastal plains of Central Vietnam. There it was necessary to assign to each waterway a certain number of craft

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1 A minesweeping element had to be added subsequently.
that were based at a river post. These craft could not move from one waterway to another except by going out to sea. In addition, the shallow rivers made it necessary to utilize craft with relatively little draft.\(^1\)

Toward the end of the campaign the Dinassauts themselves appeared inadequate for the tasks involved, and it was necessary to organize for operations, particularly in North Vietnam, river task forces drawn from several Dinassauts, reinforced by additional transportation means obtained from Army transportation units and from transport forces of the Navy.

**THE EMPLOYMENT OF RIVER FORCES**

River forces were in support of the area commands at various echelons depending upon the circumstances. "In the South, the River Forces Command supported the general commanding Ground Forces, South Vietnam, in accordance with an agreement reached with the commander of the French Naval Forces, Indochina. In the North, the commander of the river forces maintained close liaison with the headquarters of the general commanding Ground Forces, North Vietnam, and, to all intents and purposes, the four Dinassauts in the area supported the Army.\(^2\)" This arrangement was entirely satisfactory, and the commander of Dinassaut Number Three and of the river port of Nam Dinh reported: "The southern zone to which I was assigned as Commander, River Forces, Nam Dinh, was a perfect example of the excellent relations and the feeling of unity which can be obtained. Continuous coordination was maintained with both artillery in fixed positions and with aerial support means. This complete coordination assured the effectiveness of all combined operations. All river craft of the Army (transport and armored forces) were under the orders of the Navy; there were reciprocal arrangements for use of aerial support and communications. In addition, the territorial responsibilities were carefully defined, etc."

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1 Captain X, commanding naval forces in Central Vietnam.
2 Admiral commanding naval forces in the Far East.
These favorable circumstances had arisen because the Naval Command was permanently responsible for all river forces regardless of their parent service, and the river posts were "the coordinating centers and the operational command posts which maintained direct liaison with the ground forces commander in the area."

On occasion, liaison and coordination were more lax, and the ground commanders did not pay sufficient attention to the security of waterways. This led the admiral commanding French naval forces in the Far East to complain of "...the inadequate numbers of craft available for certain waterways of vital importance (such as the Red River and the Canal of Bamboos). This made it necessary to escort convoys with such large numbers of supporting craft that these last could seldom be used for offensive operations."

The admiral also noted that there was "inadequate fortification of the river bases," when, in fact, each of these should have been organized for defense "as were regular Army installations."

The main difficulties were, of course, the lack of sufficient landing craft in the Dinassauts. It had already been demonstrated in Central Vietnam, incident to the operations at Faifo and Quang Khe, that a group of river craft had to have with it an infantry unit under its control. This infantry unit would be responsible for the defense of the river base, and would also be trained to land under fire in the event of ambushes. In Cochinchina, and above all in Tonkin, the Dinassauts had Navy commandos (or Army light support companies) attached to them. But they did not have permanently assigned infantry, which would have permitted them to move from place to place with complete autonomy and would have permitted more effective control of an area in the periods between major combined operations.

This deficiency was increasingly apparent. The commander of river forces in Cochinchina, for example, stated: "It is essential that

\[\text{1}\text{Captain X, commanding naval forces in Central Vietnam.}\]
all ambushes be immediately overwhelmed and destroyed; this was always possible in South Vietnam. Nevertheless, at the end of the war, river forces were constrained by an order of the general commanding ground forces in South Vietnam not to engage in offensive operations if they did not have at least two companies of infantry with them (this was on the assumption that the minimum force encountered would be a determined company of Viet Minh)."

In Tonkin a similar situation had existed for a long time. There, it was the normal practice to attach to the Dinassauts infantry units drawn from the ground forces that were participating in the operation.

This solution was not always satisfactory because the infantry troops often did not have even the most elementary training in amphibious types of operations (assault landings, organization of a beachhead, withdrawals, and reembarkation)! The Navy was justified in its conclusion that there was a need to organize an amphibious force that included both Navy and ground elements. These were intended not merely to support one another, but to be effectively integrated, for example into a combined Dinassaut/tactical group organization. Further, it was desirable for the Navy to exercise certain territorial commands (at a minimum the command of subsectors).

This view was particularly justified, since certain territorial commanders had a tendency to look upon the river shipping solely from the point of view of logistic support, and underestimated the capabilities of these forces for extensive amphibious operations. Certainly as the Viet Minh combat potential increased, operations along the waterways demanded ever increasing resources, while at the same time the heavy transportation requirements continued. Already "the campaign on the Clear River in 1947, and to a lesser extent that on the Black River in 1951, illustrated the lack of balance between objectives assigned and means available." ¹

The river forces were, however, never sufficiently reinforced. Toward the end of the hostilities they "were still restricted,

¹Admiral commanding the naval forces in the Far East.
particularly in North Vietnam, to defensive operations or to offensive operations of a temporary and particularly dangerous nature, because of a lack of equipment. These forces more often played the role of simple auxiliaries to ground forces, when in fact, the geographical features of the operational areas indicated that they could have contributed decisively to the actions involved.\textsuperscript{1} The logical solution would have been to concentrate all floating means into a small number of powerful river flotillas, and to create under a single commander an amphibious corps with trained infantry and artillery, and with M-29C and LVT units attached.

**EQUIPMENT**

After the difficult initial period when any and all types of equipment, including ferries, were used, the river forces came to depend primarily on surplus British and American materiel together with some light craft designed and manufactured in France.\textsuperscript{2} These last were inspired by the LCVP type, and were designated FOM boats and STCAN boats. In addition there were wooden Myrko boats with jeep engines, which were constructed by the ordnance service of the Army.

"The landing craft of British and American design had been designed for other than river warfare, and had to be modified. This involved the addition of armor and armament and also the provision of crew accommodations. It is astonishing that these craft performed as well as they did."\textsuperscript{1} The sum total of this effort was that eventually there were light and medium craft in sufficient numbers and of suitable quality to perform assigned missions. "The principal defects of these craft were the excessive noise of the Gray marine engines (which

\textsuperscript{1} Admiral commanding the naval forces in the Far East.

\textsuperscript{2} We used an assault boat based on the LCVP design, which did not prove satisfactory, and FOM and STCAN boats.\textsuperscript{4} "Myrko" boats built by the Army were of wood and lacked armor. The hulls were locally built. Power was supplied by jeep engines. This turned out to be an excellent boat for service in the territorial sectors as long as it did not run into ambushes."
were otherwise excellent) and the slow speed of the smaller boats used for patrol and minesweeping." This last was important because mines quickly became the major threat to river forces, and there were many evidences of the effectiveness of mines against craft of all types. "Small craft with flat bottoms were particularly vulnerable to mine damage, whereas the metal FOM boats might often lose their superstructures and weapon mounts but they fell back into the water without sinking."\(^1\) Sweeping was the best means of meeting the mine threat. Small minesweepers were particularly effective against electrically controlled mines, but they were ineffective against regular naval mines for which a positive means of destruction ahead of and at some distance from the sweep boat has to be found.

Lacking an enemy on the water, the Dinassauts found themselves meeting their adversary along the banks, from which they were attacked with the whole range of infantry weapons and sometimes even artillery. The necessity to armor all craft on the waterways quickly became evident. During the period when any type of local craft was used, the losses were excessive in comparison to the results obtained, this being particularly true in the smaller waterways of Cochinchina. Experience also revealed that the thickness of armor was only part of the solution, as the quality of the steel was also important. Experiments were conducted with double armor utilizing an inner layer of rubber or cement. However, experience with this was not adequate to justify any sound conclusions.

Armament, on the other hand, was generally satisfactory. One should particularly note the extreme efficiency of the twin 40-mm gun mounts with remote fire control systems. Flamethrowers and rocket launchers were not used, despite the fact that a few had been mounted on LCM's toward the end of the conflict. The main need, as became more and more evident, was for larger craft of greater power.

\(^1\) Commander, river forces of South Vietnam (COFLUSIC). This applies to existing boats, but it does not mean one should not look to flat-bottomed boats with greater hull resistance.
"The experience of all river warfare in history confirms a requirement for ships with a shallow draft, armed with large caliber weapons and fitted with heavy armor. The LCM monitor type, which was a useful innovation for its class, was not satisfactory as the standard type combat craft. A change from LCM to LCT and from 40-mm weapons to those of 130- and 150-mm, and of armor from 12-mm to 100-mm thickness, probably would have better met the needs of the river forces beginning with the 1947 campaign on the Black River. Such proposals had been made in 1952 but never achieved any positive results because it was extremely difficult to obtain authorization to convert LCT's, which were engaged in transport missions, to craft intended purely for offensive combat operations. At the other end of the scale, it was evident that river forces lacked the smaller type of craft that were needed for liaison missions, for raids, for scouting, and for rapid sweeping. Ideally such craft should have the following characteristics: silent running, speed, seaworthiness, some armor. The FOM craft of 11 m came close to these characteristics, but did not have sufficient speed and did not handle well in any sort of chop. The Wizard craft, which arrived in Indochina after the cease-fire, was extremely fast and maneuverable, but actually too small and fragile for the normal missions involved. This craft had plastic hulls, outboard engines, and only limited range.

It would appear desirable to undertake studies to develop a craft with the following characteristics:

- Speed in excess of 20 knots
- Twin screws, and fittings for minesweeping gear
- Twin engines with minimum operating noise, flat reinforced hull, screws directly under the hull, draft of about one meter, and beaching capability
- Fuel oil rather than gasoline engines, with range of 100 n mi
- Armament to include one 20-mm gun (or one 57-mm recoilless rifle), and two light machine guns
- Armor protection for the weapons and a splinter shield for the engines
- Crew facilities for three men.
- Low initial cost, easy maintenance, and acceptable seakeeping characteristics.

While awaiting the initiation of the foregoing rather ambitious program, it will be necessary to continue relying on the STCAN boat, complemented by the 'Wizard'.

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1 Admiral commanding naval forces in the Far East.

Translator's Note

XXIX. FEMALE PERSONNEL

Female personnel were included in the Expeditionary Corps beginning in September 1945 when a group of 20 WAC's accompanied the "Massu" contingent. At the same time, the 47th WAC Unit had been organized in France and was recruiting 100 volunteers who were sent to Indochina during the last days of 1945.

The Army's female personnel strength continued to grow at the same pace as that of the Expeditionary Corps:

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1947</td>
<td>738</td>
</tr>
<tr>
<td>1950</td>
<td>942</td>
</tr>
<tr>
<td>1951</td>
<td>1,106</td>
</tr>
<tr>
<td>1952</td>
<td>1,413</td>
</tr>
<tr>
<td>1953</td>
<td>1,864</td>
</tr>
<tr>
<td>1954</td>
<td>2,070</td>
</tr>
</tbody>
</table>

During this same period, the Air Force recruited 30 female auxiliaries; this number grew to 120 by 1954. The Navy female personnel totalled 30.

DUTIES

Numerous assignments in signal communications and in the secretariats of the permanent staffs, as well as in various service headquarters, were held by women. They were also used in several other specialties:

- Packing and repair of parachutes\(^1\)
- Red Cross workers and social workers
- Movie operators\(^2\)
- Nurses and medical orderlies (an average of 300 to 350)

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\(^1\) During periods of operations these women were greatly overworked. During the battle of Dien Bien Phu, for example, teams of two women would repack one parachute every seven minutes.

\(^2\) These would operate the movie vans that held shows for the various posts and camps each night.
Ambulance drivers\(^1\) and flight attendants\(^2\)

Beginning in 1948 the increase in personnel resulted in the disbandment of the 47th WAC Unit. All matters of assignments and related questions were then handled by special staff sections under a woman officer in the personnel office of the Territorial Commands. At the same time the Signal Corps, Airborne Forces, and the Quartermaster and Medical Corps were directly responsible for their own specialists. Administration of female personnel was handled by the headquarters companies of Territorial Commands.

Despite the extensive use made of female personnel, there is little question that the many service support units and staffs within the Expeditionary Corps could have achieved far greater economies in manpower had they assigned additional billets to females. The difficulty was that the recruiting of qualified personnel was such that it was impossible to relieve any great number of male specialists either on a quantitative or qualitative basis. This is the main lesson of the war.

RECRUITING

Voluntary enlistments were hampered by the lack of popularity of the war in Indochina in certain French circles, as well as by unfavorable commentaries concerning the enlistment of women. Nevertheless, the remunerations available to female personnel would have provided for a far greater flow of enlistments had it been possible to give to interested women certain definitive assurances regarding the formalization of their status.\(^3\)

It also would have been better had the living conditions for women in Indochina been improved. Suitable accommodations were only started in 1950, notably after the arrival of Marshal de Lattre. Even

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\(^1\) These last, who numbered some 70 to 80, were particularly worthy of commendation. Aside from Aline Lerouge there were many ambulance drivers who should have been cited.

\(^2\) These belonged to the Air Force.

\(^3\) Questions concerning disability pensions and life insurance were not resolved for a long time.
then much more could have been done to provide the comforts that women serving an 18 month tour in a tropical country could have expected. The climate alone contributed to an appreciable lowering of the personnel strengths, not that the numbers of women who had to be evacuated were any greater proportionally than the men, but because there were many hospitalizations and these were frequently repeated. In summary, recruiting was difficult, with the result that professional qualifications were often less than those desired simply because there was little to choose from among the few candidates. "There should have been a strict selection based on both professional and moral bases. Entrance examinations should have been required... a longer predeployment training period under highly qualified officers... a merciless elimination of all incompetent elements."¹

Once arrived in Indochina, the WAC's, whose training had been superficial, received further instruction. However, their effectiveness remained necessarily low for some time.

To meet some of its problems, the Medical Corps had to obtain additional personnel by offering special contracts to both women and men. The Corps of Auxiliaries to the Armed Forces, Far East (CFAFE), which, in 1947, appeared as the successor to the CMLAE, recruited doctors, pharmacists, dentists, nurses, laboratory technicians, therapists, etc., for a period of 18 months with the option of extension for six months. These were assigned temporary ranks conforming to their technical competences. There were 300 to 350 women serving in various medical formations within the Expeditionary Corps under this arrangement, and they provided excellent service.²

¹Miss X, chief of the WAC section at the headquarters of Commander in Chief.
²The number reached 470 in 1954.
XXX. LOGISTICS

In a physical environment that was alien and distasteful to the French fighting man, an Expeditionary Corps equipped for a war in Europe, and entirely dependent upon distant and limited sources of supply, had to adapt itself by series of successive improvisations to the demands of a conflict that grew from simple guerrilla warfare to engagements between major forces.

For this reason, the logistics of the war in Indochina were characterized as a constant search for remedies to situations that were as unfavorable as they were unstable. The solutions arrived at were, therefore, more often "patch jobs" or even "D systems" than the results of deliberate planning. Furthermore, the nature of the theater of operations and the progressive increase in enemy capabilities required changes in the scope and magnitude of the logistical support effort. The creation of the Armies of the Associated States and their rapid growth also added heavily to the burden, for we had the full responsibility for their support even as their own services were being organized.

The irregularity in operational requirements and the frequent changes in deployments were the variables in the logistic equation. In addition, there were three constants:

- The need to use an infrastructure originally developed to support the troops that were normally stationed in Indochina prior to 1945.
- The distance from France, which directed the war effort and was the source of all essential supplies.
- The unusual geography of Indochina: vast impenetrable forests, long distances, distressing climate.

THE INFRASTRUCTURE

The previously developed and well sited network of territorial facilities, which had also been used by the Japanese, was found

\footnote{Particularly their seasonal variations due to the monsoon.}
generally intact in 1945. This could well serve to support our forces, since the nature of the war made it necessary for us to base ourselves in the garrison towns (which were firmly held), and to protect our communications by shuttling operations between the fixed installations and our posts or the encampments of the mobile formations. The preexisting infrastructure thus constituted the logical basis for the deployment of our service support facilities. This consideration continued to exercise a major influence throughout the campaign, for it corresponded to the local geography and, in this respect, allowed for all the expansion that became necessary.

The increase in rebel forces and the parallel growth of the Expeditionary Corps, together with the creation of the Armies of the Associated States, made it necessary for the logistical support to lose the simple "handicrafts" form it had at the beginning, and to take on a more "industrial" aspect. The service units had to organize new shops and new depots, increase the hospital capacity, etc. Also, the ever increasing rates of expenditures required commensurate increases in stocks. A few samples illustrate this development:

- The number of vehicles to maintain increased from 15,000 in 1947 to 60,000 in 1954.
- The storage area for ordnance supplies increased from 130,000 sq m in 1947 to 200,000 sq m in 1954.\(^1\)
- Ordnance stocks went from 45,000 tons in 1947 to 100,000 tons in 1954.
- Military personnel treated at aid stations and hospitals went from 384,000 in 1946 to 714,000 in 1953.

The extension of operations in the last years of the war required the creation of new bases, which had to be tied to the ports of arrival of the supplies by lines of communications that in some cases were artificial, i.e., air transport.\(^2\) At the same time, the different services were gradually forced to organize mobile elements to

\(^1\)Covered storage was always insufficient, and the several services had to use open storage.

\(^2\)For example, the base at Seno to support the campaign in central Laos, and the base at Quinhon to resupply Operation ATLANTE.
meet the needs of certain operations. For example, there had to be created mobile surgical teams, airborne surgical teams, mobile maintenance sections, operations maintenance groups, etc.

In summary, while the logistical base remained generally territorial in its organization, and as such answered well to the demands of a war without fronts, it was nevertheless necessary to come up with new ideas to meet situations that, although not dissimilar from those encountered in European wars, did not respond to the same procedures that would have applied in France.

SOURCES OF SUPPLY

The 12,000 km separating France from Saigon were a crushing liability. Even if the whole of the people of France had endorsed the war in Indochina, it is questionable that they would have truly appreciated what the Expeditionary Corps needed to achieve a victory, much less merely to continue its struggle. This is the basic reason why the administrative centers at home were unable to maintain close contact with the corresponding services in Saigon, and did not always understand the requirements of Indochina. "An exchange of letters, when it is not followed up by personal contacts, often resembles a conversation between the deaf."¹

There was also the fact that the Expeditionary Corps could find only limited resources in a country where industrialization had barely begun by 1939, and where even this had been abruptly halted by World War II. Indochina could provide some foodstuffs (rice, animals, fish) plus coal and some construction materials. A few small industries, notably near Hanoi and Saigon, could also work with raw materials or semi-finished items that had been imported (bridging and metal framing) and thus provide some assistance to the Ordnance and Engineer Corps. But skilled labor was scarce and there

¹Report of the Quartermaster General, Far East.
was considerable difficulty in recruiting and training apprentices. The sum of these factors placed the burden of supply upon France and the United States.\footnote{1}

Insofar as supplies from France were concerned, there was a considerable delay in meeting the requirements, since transportation alone involved two months. In addition, the Indochina War was carried on under peacetime economic and funding practices, i.e., in response to a rigid annual budget. As a consequence the Commander in Chief had to submit his estimate of the funds required to conduct the war for the forthcoming year, and then await the decisions of the government to determine what actually could be done with the funds authorized.

The basic computations that went into this estimate, whether related to equipment, maintenance, or base development, were derived from previous experience, current expenditures, and reasonable projections into the future. The problem was that with a rapidly changing situation, particularly as was evident during the last years of the war, the estimates, which at best were of limited reliability since the experience factors were relatively short ranged, could no longer provide any margin of safety since they had to anticipate developments a year in advance (the estimates were required in July of the preceding year). This is the reason why, in July 1950, the future expenditure rates of 105-mm ammunition were estimated at 5,000 rounds per month and no major base development projects were anticipated. As it turned out, the tempo of operations in the Tonkin delta in 1951 required the expenditure of 30,000 rounds of 105-mm ammunition per month, and also required the development of a system of fortifications costing several billion francs. Thus, the lack of long range politico-strategic planning guidance caused the campaign plans and the related logistical support plans to be developed with far less than the required degree of accuracy. Lastly, when the U.S. military assistance program was agreed upon, the contributions that could be expected

\footnote{1Occasional supplies from Japan and Australia helped solve some problems, but in all cases the Expeditionary Corps depended upon distant supply sources.}
from this source were not known when the budget estimates were being prepared. Obviously, this information was essential to permit the determination of what requirements U.S. assistance could meet.

The Commander in Chief could, of course, submit emergency requests to France for supplemental allowances. This was a privilege he exercised on numerous occasions. However, the time required to meet these needs varied greatly depending upon whether there were stocks available to be drawn upon and it was just a matter of arranging the shipping, or whether the items had to be manufactured. As a result, certain supplies that were of critical importance when requested arrived when they were no longer needed, while priority items, which were required on a continuing basis, would be in short supply for varying periods of time. An example of this is the situation in September 1953 when the following spares were no longer available:

- Front end assemblies for jeeps, Dodges 6 x 6, and GMC trucks.
- Rear end assemblies for Dodges and GMC trucks.
- Transmissions for jeeps and GMC trucks.

One other distressing factor was that the great variety of equipment in use at the beginning of the war (British, Japanese, French, American, Australian) complicated the requisition, receipt, storage, and distribution of spare parts. It was not until 1952 that a certain standardization was attained (except in the auxiliary formations) through the use of French and American equipment.

The organization of a rear supply base in France to store and ship supplies and equipment on request, as was done for munitions at the Miramas depot, would have helped control the flow of support. In the absence of such an arrangement, which would have considerably

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1 It should be noted that the ECMON of Saint Denis, which until January 1953 received all requisitions from Indochina and was responsible for procurement and shipment, did not have any storage facilities. Thus, it was unable to maintain any stocks and had to ship all materials procured, even when they were no longer needed.
simplified the logistic problem of the Expeditionary Corps, the supply services in Indochina had to carry unusual stock levels in order to compensate for irregularities in deliveries. This increased the burden considerably, since it was necessary to find suitable areas and additional manpower to operate new depots. Additionally, the tropical climate greatly reduced the shelf life of certain items of equipment and rations.

The assistance provided by the United States to the Expeditionary Corps was most important and added to the resources available for the prosecution of the war while at the same time reducing the drain on the French budget. Unfortunately, the delays in the delivery of these supplies were little different from those of supplies coming from France, and some of the items received were old or obsolete. There were, for example, certain requests submitted in 1952 that still had not been completely filled by 1954.

THE PHYSICAL NATURE OF THE THEATER OF OPERATIONS

The Indochina campaign began and continued on with materiel that, in almost all cases, had been designed for a European war. However, the use to which this materiel was put in a tropical country with large expanses of flooded lands was radically different. Thus, for example, the climate required light clothing (which was not the case of the regular combat uniform), and equipment that was moisture resistant. Packaging, radios, electrical circuits—all had to be tropicalized. Certain hospital facilities had to be air conditioned; armored vehicle crews could have received improved protection from heat. These examples of a lack of equipment related

1 These levels were also needed to compensate for the irregular expenditure rates, which varied with the magnitude of operations. For example, during periods of little or no activity, daily consumption rates were on the order of 4 k per man, of which 0.2 k was ammunition. However, during combat operations, the daily rate was 10 k per man, of which 4.26 k were ammunition. At Dien Bien Phu the daily consumption rates were: 17.75 k per man during the buildup phase, 7.74 k per man prior to the battle, and 10.60 k per man (6.65 k ammunition) during the battle.

2 The Afrika Corps, in 1941-1942, had special vehicles for desert operations.
to the temperature and humidity conditions of Indochina could be multiplied manyfold.

Without elaborating once again upon the inadequacy and the poor quality of the communications network, it will suffice to mention the critical limitations that transportation problems imposed upon the whole of the logistic effort, and, consequently, upon all major command decisions. The lack of security prohibited, as has already been said, all overland movements at night. In the daytime, the convoys could only move over certain prescribed routes and then only at slow speeds because of the need to provide escort forces, which in themselves used additional personnel and supplies. In addition, the compartmentation of Indochina into several operational zones, separated from one another by large areas under Viet Minh control, denied the possibility of inter-territory communications except by sea or by air.

The growing importance of Tonkin as an operational area, and its distance from Saigon, led to the decentralization of the logistic support for this territory, since this could be provided directly through Haiphong. Thus, beginning in 1952, the Tonkin Operating Base (BÔTK) was organized to fulfill the role for that territory that should have been filled by a similar base in France for the whole of the Expeditionary Corps.

It should be noted that the flow of all supplies from either Saigon or Haiphong involved multiple handling. Thus, the output of the system was measured in terms of the transportation means with the smallest capacity. In other words, while large tonnages could be moved easily by coastal shipping, it was extremely difficult to deliver these supplies to the more remote inland areas (see Table 5). In the deltas, the waterways could compensate in part for the poverty of the land communications net. The railroad was only of limited value because there were few lateral lines and only half of the existing system could be used. Air transport was the only means available for the direct delivery of supplies from point of origin.
Table 5

CARGO MOVEMENTS FOR 1953

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>By</th>
<th>Metric Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>Saigon</td>
<td>sea</td>
<td>199,778</td>
</tr>
<tr>
<td>Overseas Areas</td>
<td>Saigon</td>
<td>sea</td>
<td>191,974</td>
</tr>
<tr>
<td></td>
<td>Haiphong</td>
<td>sea</td>
<td>131,191</td>
</tr>
<tr>
<td></td>
<td>Central Vietnam</td>
<td>sea</td>
<td>12,783</td>
</tr>
<tr>
<td>Saigon</td>
<td>Nha Trang</td>
<td>sea</td>
<td>874</td>
</tr>
<tr>
<td></td>
<td>Nha Trang</td>
<td>railroad</td>
<td>107,000</td>
</tr>
<tr>
<td></td>
<td>Danang</td>
<td>sea</td>
<td>57,829</td>
</tr>
<tr>
<td></td>
<td>Haiphong</td>
<td>sea</td>
<td>150,581</td>
</tr>
<tr>
<td></td>
<td>Hanoi</td>
<td>air</td>
<td>751</td>
</tr>
<tr>
<td></td>
<td>Dalat</td>
<td>railroad</td>
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<td></td>
<td>Ban Me Thuot</td>
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<td>Pnom Penh</td>
<td>road</td>
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<tr>
<td></td>
<td>Pnom Penh</td>
<td>river</td>
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<tr>
<td></td>
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<td>road</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>river</td>
<td>22,926</td>
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<td>Pnom Penh</td>
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<td>Kratie</td>
<td>Savanna Khet</td>
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<td>Dong Hoi</td>
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<td>West Areas</td>
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<td>road</td>
<td>42,444</td>
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<tr>
<td></td>
<td>Moncay</td>
<td>sea</td>
<td>14,667</td>
</tr>
</tbody>
</table>
However, the airfields were unevenly distributed and there were only a few that could take transport aircraft. These factors, coupled with the small numbers of transport aircraft, limited the capabilities of this means of transportation.

Three examples illustrate the complexities of the logistic problems involved in the support of certain units:

- The zone of Dong Hoi in Central Vietnam could only be supplied readily during those months when the port of this town was usable. The supply requirements thus had to be computed for extended periods, and there was no way of knowing whether unexpected operations would invalidate the estimates.

- Vientiane and upper Laos received most of their supplies by air from the Tonkin airfields, since it was difficult to reach them from the south because the road between Thanakheak and Vientiane had been destroyed and the Mekong was usable north of Kratie for only six months per year.

- The garrisons of Langson and Gao Bang, until their evacuation in 1950, depended upon Colonial Road No. 4, and the price paid to utilize this jungle road intermittently is well known.

Under these conditions, the transportation systems had far lower yields than they would have had over similar distances in France. This reduced effectiveness was reflected in higher costs within the budget of the Expeditionary Corps. As an example, the following sums were spent solely for transportation within Indochina and only for the Army:

- In 1952, 9,000,000,000 francs
- In 1953, 12,000,000,000 francs
- In the first six months of 1954, 8,300,000,000 francs

Toward the end of the war some transportation tasks became increasingly difficult:

- The use of certain roads and waterways involved substantial combat operations.
The use of air transport was the only means possible to supply certain remote garrisons, while many other posts could only be supplied by airdrop.

The growing ammunition expenditures required the shipment of ever increasing tonnages.

From the point of view of logistics, the war in Indochina was thus carried out through a series of improvisations. The services had to continually modify their organizations and always had to face increasing tasks with inadequate resources. Combat operations prolonged for almost ten years and conducted some 12,000 km from France could only be continued with large resources, but these were only accorded parsimoniously. Thus the imperatives of the budget always won over those of operations, and the capabilities of the command were limited. As a consequence, logistic support, despite the efforts made, appeared to be slow, and seemed to follow rather than anticipate the changing tempo of operations as they developed in the course of the war.

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1 The total tonnage transported by air to Dien Bien Phu consisted of 21,600 tons, of which 5,000 tons were airdropped. This averages 130 tons per day.

2 Tonnage of supplies airdropped for the whole of Indochina: monthly average for 1953, 1,700 tons; for December 1953, 2,200 tons; for March 1954, 4,700 tons; and for April 1954, 7,000 tons.

Translator's Note

The term "D-system" is French Army slang and derives from the word débrouiller, which literally means to manage or shift for oneself. The technique of getting a job done by ingenuity, scrounging, "midnight requisitioning," and related devices is common to all armies, but was brought to a high state of perfection by the French forces in Indochina.
XXXI. THE QUARTERMASTER CORPS

The unusual nature of the war in Indochina "had little influence on the organization and functioning of the Quartermaster Corps." However, while the rules born of experience that were applicable in France could also be applied in Indochina, the various executive agencies of the supply and administrative services had to undergo some modification in detail to meet the growing needs of the Expeditionary Corps. These modifications were satisfactory insofar as subsistence and clothing were concerned, but administration remained too rigid, and the troops certainly suffered from adherence to peacetime regulations.

SUPPLY SERVICES

The deployment of the various service elements of the Quartermaster Corps was based upon the territorial organization and utilized the facilities that existed in 1945. This permanent system was complemented by "operational support groups" organized and equipped as required for the activity to be supported. This device permitted substantial savings in personnel and worked out well.

In the execution of their mission, the supply services had to resolve the same sort of problems that all other services encountered. These were due to the distance from France, the local geography, the increase in troop strengths, etc. The major difficulty, however, was procurement. Local resources were of little help. In areas where there was a dense population, the people confined their efforts to

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1 Report of the Quartermaster General, Far East, April 1955.
2 Insofar as the Quartermaster Corps was concerned, these groups consisted of an operations supply center, which included, in most cases, a ration dump, a munitions dump, and an engineer equipment depot.
3 An operational group supporting 15,000 men would normally include one officer, 12 NCO's (of whom 9 were warehousemen), a varying number of drivers, and about 60 laborers. There were four such groups in Tonkin.
4 Report of the Quartermaster General, Far East. (It would have been desirable to have a regular quartermaster unit for each provisional division or task force comprising 15,000 to 20,000 men.)
growing one crop, rice; in other areas production was too low to have any significance. Thus, procurement of subsistence stores was limited to rice and dried fish. Another problem arose from the ethnic differences of the personnel making up our forces. For example, to provide "Muslim troops with live sheep, it was necessary to buy these first in Australia, then in North Africa, transport them to Indochina at considerable expense, and then issue them to all units, even the most remote posts, by whatever means were available (including airdrop)."¹

Local procurement of clothing items was somewhat better because of government-controlled or private enterprises. This was effected "despite the fact that the regulations concerning local purchase in the Far East had never been modified to meet the requirements of the war."¹ The equipment available to the subsistence and clothing services was, unfortunately, quite inconvenient (FOUGA type bakery trailers, for example) and involved a wide variety of makes and models (electric generators, extinguishers, etc.). "This lack of standardization resulted in a loss of time and money and in lower efficiency. This was even more unfortunate in that it was the strict application of existing regulations that produced these unhappy conditions....

"What happened was that the using services had to compete with one another and use the nearest source. It should have been possible to make private contracts, but the fiscal people most often objected to such arrangements."¹ This was a procedural and financial mistake.

The storage and maintenance of supplies was initially handled within the existing facilities, but these soon had to be expanded. Food and clothing stocks had to be protected from heat, humidity, mildew and other fungi, rodents, and all other types of parasites. "Permanent all-purpose storerooms seldom provided adequate protection... while field storage facilities were usually limited to storage tents

¹Report of the Quartermaster General, Far East.
or to other expedients that were nothing more than 'poor man's solutions'. The alternation of torrential rains with intense sunlight wore out tentage very fast, and quickly rendered it permeable despite successive applications of waterproofing material.

The obvious solution would have been to reduce the stock levels, but this would have required both an improved standardization and the organization of a support base in France. There is little merit in speaking of the slowness of transportation and the difficulty of supplying remote posts. This explains why it was occasionally necessary to send urgent requests to France even when the supply situation for Indochina as a whole was satisfactory: supplies were available in some remote areas but these were in effect "frozen" since they were inaccessible or irrecoverable. "...In sum, there was little flexibility in the supply system."¹

In addition to the foregoing, insufficient study had been given to the various materials best suited for the manufacture of different items and to how these should be protected. It is difficult to understand why for reasons of economy, for example, the metal parts of certain pieces of equipment (belt buckles, etc.) were made of metals that would oxidize (Iron).

The proper care of clothing items could not be handled satisfactorily by the specialized units (clothing repair companies, laundry companies). Each man was, in fact, responsible for laundering and repairing his own clothing and bed linen. One would think that in a ground war, one could provide facilities for the upkeep of clothing and encampment supplies by consolidating the rear echelons of the various units (a recommendation that had been made).

Lastly, the distribution of resources was not simple, for "to meet requirements one must know what they are...but the constant movement of units, the fluctuations in their strengths, the need to

¹Report of the Quartermaster General, Far East.
maintain secrecy, the inadequacy of communications, and the ignorance of elementary procedures on the part of some requesting units all served to greatly complicate the job of the supporting services. It is believed that hope of ever obtaining a precise idea of requirements should be abandoned. It would thus be better to accept this as a fact and establish procedures for the outright issue of supplies without formal accountability. In combat there is always an 'explanation' for unusual consumption rates; this deceives no one. This is simply a ritual dear to accountable officers. The elimination of waste is not to be accomplished by rigid and annoying accounting procedures, but by the exercise of proper command supervision and a professional attitude on the part of commanders at all echelons.\(^1\)

**CLOTHING PROBLEMS**

In addition to providing the various items of clothing required by different categories of personnel, it was necessary to furnish troops in Tonkin and Laos with winter issues. It nevertheless appears that the issue of coats could have been eliminated as well as that of some other woolen items since "the regular combat uniform with heavy underwear (U.S. model) plus a woolen sweater should have met the needs of the soldier,"\(^2\) as long as he was also provided with a poncho of some plastic material that he could fold and hang on his belt in a canvas carrier.

"The combat uniform of the normal cut was not criticized\(^3\) although the material it was made of made it almost useless for overseas wear. The cloth is far too heavy and warm...the lightweight material is an improvement, but not yet fully satisfactory." This view was shared by the Medical Corps. "The combat uniform is of acceptable design. However, it is made of an excessively heavy cloth that is almost impermeable, hard to wash, and under it the body simmers in its own

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\(^1\)Report of the Quartermaster General, Far East.

\(^2\)Lieutenant X, battalion supply officer.

\(^3\)Some officers did complain of poorly cut uniforms and an inadequate range of sizes.
sweat. The U.S. fatigues are better, and the parachutist's jump suit is even lighter, softer, and more washable. The replacement of the steel helmet by the bush hat was an excellent step; however, a somewhat softer form with narrower brim should be investigated.

"The regular combat boot was replaced by the jungle boot made of canvas and rubber. This last was better to wear in flooded areas than boots of water-soaked leather that would harden and bruise the feet. However, in dry areas the jungle boot tended to make the sole of the foot hot, and encouraged blisters. The use of an insulating inner sole in the jungle boot or the molding of the rubber directly to a rope sole would have reduced this problem and still permitted the retention of the flexibility and washability of the boot."¹

RATIONING PROBLEMS

Ration support for troops in fixed positions was always adequate, but that for units in combat was of necessity somewhat irregular. Despite constant efforts, "the units on the move always complained about the lack of fresh foods (vegetables and meat) and the monotony of canned rations.... It would appear desirable to regularly augment canned rations with fresh foods, except for occasional brief periods...."¹ In addition, "many European type rations did not include salt or antimalaria pills. These items had to be added, which made for just one more shipping and distribution problem.... In certain areas cold storage facilities made it possible to supply frozen meats of excellent quality. This is a desirable procedure."¹

The issue of ice was also considered necessary, but this raised some difficulties. "The Quartermaster Corps had to compensate for the claims of local dealers by undertaking the manufacture of ice in localities of lesser importance. The equipment used, assembled or even built locally, was varied, but it rendered a highly appreciated service.... It would appear desirable that, in the event of

¹Report of the Medical Corps.
operations in tropical areas, a system for making ice be included in the cold storage facilities organization. For this purpose there would be required some semipermanent type of installation for major bases and some trailer mounted units for the more remote posts, garrisons, or troop formations."  

Comparable problems were encountered in providing drinking water for the troops. As stated in the section on the Medical Corps, "water, when available, was not only often dangerous but also very often unpalatable. Water purification techniques were not completely satisfactory because water purification equipment was cumbersome and not easily moved, and the chemicals used did not remove material in suspension from the water, and did give it a disagreeable taste."  

It would have been desirable to have, down to the company level, a water trailer with a filtering and chemical water purification system as well as "Lister bags" comparable to those of the U.S. Army.  

The use of tea resolves the problem of drinking, and Europeans can easily acquire the habit with a bit of perseverance...as long as the tea is of good quality. It should be unnecessary to discuss the distress caused by the use of wine in a tropical country. The drinking of wine during the day caused many incidents (heat strokes). In addition, its cost, storage, and distribution make it a luxury item. Wine concentrate was not very successful, undoubtedly because the water used to restore it was often brackish, but also because the quality of the concentrate progressively worsened. Beer caused a lesser, but comparable, degree of distress. However, since it was brewed locally it could be made available more easily in commissaries and distributed to the clubs and messes.

ADMINISTRATION

"Beginning with the arrival of the first elements in Indochina, the Expeditionary Corps was able to utilize an administrative

\[1\text{Report of the Quartermaster General, Far East.}\]
organization that had been in existence for a long time. There were no problems at first, but this was not to continue. The inadequacy of personnel and equipment, the enforcement of peacetime regulations applicable to France and the colonies, and the administrative procedures used by the various formations—all combined to create major difficulties for the Quartermaster Corps, which grew as the strength of the Army in the Far East.

At the troop unit level a number of things should have been done to facilitate accountability of receipts and expenditures. "The mandatory assignment of a credit balance to the supply officer" together with certain other simple provisions "would have permitted the supply officers to draw upon their accounts while keeping only a small petty cash fund." This would have made it possible to "eliminate the need to carry large funds, other than for pay purposes, into the field." Further, "the pay records should not continue to be made up at the battalion level. These should be made up in the rear, and reach the disbursing officers as completed forms.... It is also impossible to maintain clothing issue records for each man without an army of accountants. Thus the individual clothing record cannot be honestly kept current by the various troop units when serving overseas."

The care and maintenance of items of individual equipment is a command responsibility and commanders should exercise the necessary care to eliminate waste and negligence. The fact that simplified administrative procedures were not adopted added a heavy burden of paper work to units already weighted down with operational responsibilities. These burdens were even greater when the accountable officers "often proved to be inept at their tasks because of incomplete or too hasty training. In addition, the allowances of administrative personnel at the battalion echelon need to be revised upwards. There

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1 Report of the Quartermaster General, Far East.
2 Supply Officer X.
should remain at the company level only the minimum administrative personnel to handle transfers, hold pay call, and maintain ration records."

The supply officers had increased responsibilities because their units were often separated from their rear echelons for long periods (extending over several months). The shortage of officers also caused supply, disbursing, and administrative duties to be assigned to NCO's with the disadvantages that one could expect from these circumstances. Finally, it was often difficult to find secure facilities and the necessary safes, with the result that thefts were frequent.

Following a recommendation to restore general administration at the regimental level and centralize administration of the smaller units at the battalion level, a Quartermaster Corps officer concluded: "The foregoing recommendations should permit the government to effect some savings, and should provide all concerned with what they need to meet their responsibilities." Towards the end of the war, the consolidation of the unit rear echelons at the regimental level whenever possible would have permitted placing young supply officers "under the direct supervision of a senior officer who would have been able to guide them and ensure conformity in the application of the appropriate regulations...." This would have been a step toward implementing the above recommendations.

In conclusion, "it is absolutely essential to establish, without delay, one general set of regulations covering the administration of forces in an overseas operating area. Moreover, the transition from peacetime administration to that required in war should involve the minimum change in procedures.... Finally, in special instructions should be drawn up for each possible theater of operations (Far East, West Africa, Madagascar, etc.)."

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1 Report of the Quartermaster General, Far East.
2 Report by Quartermaster Corps officer.
Translator's Note

In the French Army the Quartermaster Corps has responsibilities that extend into administrative activities comparable to those of the U.S. Army's Finance Corps. Another area of dissimilarity between the French Army "Intendance" and the U.S. Army's Quartermaster Corps is that the former has no responsibility for POL storage or distribution.
XXXI. THE MEDICAL SERVICES

The performance of the Medical Corps in Indochina was eminently satisfactory. All casualties whose wounds allowed some chance of survival, and who were able to reach an aid station, generally survived. Moreover, the efforts of the Medical Corps made it possible to spare the Expeditionary Corps the serious losses to tropical disease that had characterized previous colonial campaigns.¹

OPERATIONAL CONSIDERATIONS

Medical services operations had to conform to the nature of a war without front and to the great distance between Indochina and France. In addition, due regard had to be given to factors peculiar to the theater of operations:

- The dispersal of units made it necessary to multiply the numbers of medical facilities.
- Although losses were relatively light, the ratio of seriously wounded was unusually high.²
- The inadequacy of the road nets made the evacuation of casualties a slow and extremely difficult problem. Road opening operations often had to be undertaken for this purpose. Air transport was the only means capable of linking the various medical facilities into a functional entity.

¹Since this document is to be widely distributed, this section will deal only with general matters of interest to staffs and troop units and will not cover technical medical problems.

²Overall casualty figures based upon the types of casualty-producing agents would be partially deceptive, since the armament used by the enemy varied greatly with time and place. For example, at the beginning of the war, for each three men hit there was one dead and two wounded. In addition, the number of seriously wounded was unusual, and chest and abdominal wounds were frequent (ten times higher than for the 1939-1945 campaign). These casualties were due primarily to short-range sniper fire, and an occasional hollow point bullet. Eight years later in the Tonkin delta (September 1953 to February 1954) the distribution of casualties was quite different: one dead for every four wounded. Mine warfare had then appeared and caused 75 percent of the deaths and 56 percent of the wounded. At Dien Bien Phu, on the contrary, casualties were caused primarily by artillery and mortars.
The final step in the evacuation chain was France. However, to make such a long trip, it was first necessary to treat the sick and wounded locally. Thus large medical facilities were required in the theater.

Lastly, as more and more natives were integrated into the French formations, and as the Armies of the Associated States came into being, the numbers of native sick and wounded increased. These could not be evacuated to France, and had to receive their complete treatment in local hospitals. This further increased the need for extensive hospitalization facilities and related services.

The foregoing factors led the medical services towards greater decentralization of their activities.

FORWARD AREA MEDICAL SERVICES

These services, which involve collecting and clearing functions, could not be provided by the standard medical organizations, which were part of the first units landed in 1945-1946, because units such as the medical battalion (U.S. type) with the 9th Colonial Infantry Division, or the medical company (U.S. armored division type) with the detachment of the 2nd Armored Division, were far too heavy and were based upon the availability of an extensive evacuation chain and an echeloning in depth of the required facilities.

The medical services thus had to devise new ways to meet a technical problem that never changed; the serious casualty had to receive proper treatment in a minimum time. To this end, all organizations coming from France were disbanded, and a whole range of new formations were created to satisfy local conditions. These included: first aid stations, forward surgical teams, mobile surgical detachments, collecting and clearing teams, mobile medical teams, laboratory elements, etc. In the course of time these various organizations underwent several changes, either to provide improved service (airborne surgical teams), to satisfy new requirements, or

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1 Report of the Chief Medical Officer, Far East.
because some elements became fixed units and were transformed into territorial services (medical teams, laboratory elements, etc.)

**MEDICAL SERVICES FACILITIES**

"The echeloning of the different organizations and the creation of a territorial medical services infrastructure started with mobile units, whose deployments became permanent, and who were then reinforced as required. Garrison dispensaries and field hospitals were progressively established. This continuing effort involved a number of problems concerning location of the facility, equipment, and personnel, but these were essentially routine matters and did not represent anything unusual."

"At the same time the larger organizations and major facilities were also being established. These included nursing staffs, convalescent centers, medical supply depots, and hospitals. The secondary evacuation chain was standardized from north to south using base facilities for evacuation to France or to other specialized in-country facilities. When South Vietnam became the general base, medical specialist groups were organized to provide the appropriate type of treatment for the wounded with minimum inconvenience to them. Additionally, the clearing stations coordinated their activities with the larger facilities, which had the necessary highly qualified personnel as well as all the equipment required. After initial treatment, the wounded were evacuated to France or to secondary facilities where their care would be continued. In the event further treatment was required, or complications arose, the wounded would be evacuated to a major base facility."

In the course of time a comprehensive and complete medical services system was created by the consolidation of complementary services and by the organization of hospitals. Some of these specialized in the sorting and treatment of serious cases, while others received casualties requiring less treatment but longer periods of

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1 Report of the Chief Medical Officer, Far East.
hospitalization. "This organizational concept was intended to provide the best possible care for the wounded. It permitted the fullest use of hospital beds for all services without concern for any theoretical allocations of spaces, the object being to assign space on the basis of need and type of treatment required. In its final form, the medical service in Indochina was a complete entity and was not a simple service support agency within an Army zone."  

EVACUATION PROCEDURES

The problem of evacuating the wounded to the nearest aid station was one of the major concerns of battalion medical officers and unit commanders. "The evacuation of wounded from the battlefield was a most disturbing problem and one that was never satisfactorily resolved. In the delta, units would be operating in flooded areas several km from the nearest road or waterway. The only way that a wounded man could be moved from these areas was by stretcher. Considering the distances and the difficulties of walking on the slippery dikes, a minimum of four men was required to carry out any stretcher case.... Moreover, because of the general insecurity that prevailed at night, the movement of wounded during hours of darkness was impossible. As a result, the man hit at 1800 hours had a four times greater chance of dying than the one hit at noon. Except for situations where a stretcher case needed to be carried only a short distance, and the subsequent ambulance trip was brief, the only solution lay in the helicopter. This, of course, required that there be adequate numbers of these aircraft, and that they could load the wounded with a minimum risk...."

"The problem was aggravated in mountainous areas as the following example, one out of a hundred, illustrates: After the battle of Tsa Ye Pin on January 24, 1953, the entire 21st Moroccan Company had to be relieved to permit it to evacuate its 50 wounded (16 men being required for each stretcher case in this area), weapons, and the

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1Extracts from reports by battalion medical officers.
20 dead. It took 24 hours to cover 7 to 8 km and the unit arrived completely exhausted with several dead among those that had been most seriously wounded. As a general rule no seriously wounded man ever survived, because it took two to three days by stretcher to get him to the aid station at Laichau and we never could get a helicopter. These only appeared over Laichau during operation Castor.¹

The Viet Minh had the same problems. A medical officer of their 46th Regiment reported, "In the great majority of cases the wounded are carried out on foot and very seldom by vehicle. The difficulties and delays involved in effecting such evacuations often result in wounds becoming infected and the men either die or become permanently disabled." Large numbers of helicopters would have been most desirable, but these only began to appear in 1950 and were never available in quantity. When they did appear they quickly proved their worth; between 1950 and August 1, 1954, there were 9,640 "primary" evacuations of the wounded by helicopter.²

Within the territories, and in the vicinity of Saigon, vehicles could be used for evacuations. Fixed wing aircraft were also often used, but in either case considerable time was involved. The evacuation of wounded to France was not without its difficulties, too, because no hospital ships were available. "After nine years of war we were still making out with modified commercial shipping. The ship which in 1954 was considered the hospital ship for Indochina was, in fact, the Oregon of ancient vintage, which, with its tired engines, could barely manage four round trips per year. Let us not even talk about air conditioning; with any kind of engine breakdown in port, the ship could not even load the sick and wounded. This was certainly not a hospital ship."³

Air evacuation to France was also used, particularly in 1953 and 1954. "This involved a flight of 12,000 km, lasting a minimum of

¹Captain X, commanding the company.
²The total number of evacuations by helicopter was 10,820.
³Report of the Chief Medical Officer, Far East.
31 hours. It was thus necessary for the evacuees to be in condition to stand this fatiguing journey, and this in turn required considerable prior treatment before the trip could be undertaken. A few aircraft could handle litter patients. However, it appears that for such cases air evacuation over long distances should be the exception rather than the rule, and should be used only when time is the critical factor. Evacuation by ship is far better, for there the bed patient can receive the same care as in a hospital."

**PERSONAL HYGIENE AND SANITATION**

All activities that contribute to the maintenance of health also contribute to the maintenance of the personnel strengths of units. These activities are in part the responsibility of the medical services, in part the responsibility of commanders at all echelons, and in part the responsibility of each individual. This explains some of the deficiencies often noted by medical officers.

In his report, the chief medical officer stated: "The training received by officers and men in matters relating to personnel hygiene, sanitation, and first aid is negligible. Elementary rules of personal hygiene are to be found in all manuals, yet they are neither properly followed, nor well understood. Weapons are inspected, reviews are prescribed, but little concern is shown for the individual whose physical fitness and well-being are equally important.... The training of the individual should include a phase on personal hygiene and sanitation given with as much care as is combat instruction. In the camps, and particularly in the staging areas where the last medical screening is made, some practical instruction on these subjects should be given: personal hygiene, sanitation, drinking water (care and operation of filtration units), etc.

"In the same fashion that the sanitary personnel of a major unit cannot do all of the cleaning, maintenance, and other sanitation work for the whole of the command, medical personnel cannot always be

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1Report of the Chief Medical Officer, Far East.
present in time or in proper numbers to handle the wounded. Since the numbers of medical aid men and stretcher bearers cannot be easily increased, each man is provided with an individual first aid packet. Thus, while awaiting the arrival of aid men, stretcher bearers, or doctors, the men must know how to give first aid with whatever means are available. They must know what to do and what not to do. This knowledge becomes even more important for small units operating independently in a hostile jungle.

"First aid is of great importance. A casualty hit by a bullet that has fractured a leg or thigh, and who has received no attention, will often reach the air station in a state of advanced shock that may be fatal. A tourniquet that is either unnecessary or is improperly placed will result in serious difficulties.... It often happened that the most elementary rules of personal cleanliness were neglected, and not always because of combat operations. The high number of skin infections, primarily due to various fungi, attests to the difficulties that the men had in keeping clean. Numerous comments were made concerning the irregular issue of soap and exchange clothing.

"The dangers arising from the improper disposal of body wastes were well known in Indochina, yet the approved procedures were often neglected. Toilet facilities were often poorly built, too large, sited at random, too numerous for a given soil type, and improperly maintained. Moreover, they were not regularly used. The fight against flies was not pursued with vigor even in permanent camps. In general, trash and scattered bottles could be found near most of the camps, and the kitchens were usually dirty. All of these things must be corrected. This is a question of discipline, as are many others."¹

PREVENTION OF DISEASE

While the Expeditionary Corps may have been spared the scourge of deadly epidemics, it did nevertheless have to pay a toll in tropical diseases. Malaria was by far the greatest problem. "In this connection the numbers of repetitive orders and disciplinary

¹Report of the Chief Medical Officer, Far East.
punishments reveal that the taking of antimalarial pills did not become an automatic reflex. Negligence and lack of concern were most often the basic reason why this prophylactic measure was not carried out regularly, and yet the importance of this practice was confirmed many times.

"The issue, exchange, and maintenance of mosquito nets were not always properly handled, and it happened that units were deployed to malarial areas without proper protection. In any event, malaria was generally easier to treat than amoebic dysentery. Preventative measures against this last were certainly not properly pursued, and what has already been said about drinking water and the lack of cleanliness of the camps certainly contributed to the spread of this disease.

"With regard to scrub typhus, preventative measures were generally better observed. However, it should be noted that insect repellents and soap solutions tend to stiffen the uniforms and this in turn causes painful inflammations in the crotch."¹

Drunkenness, which is common to all professional armies, was noted among certain elements of the Expeditionary Corps on many occasions. This can be explained by a number of reasons:

- The isolation of certain posts and the deadliness of the routine
- The reduced tempo of activity in rest areas following prolonged periods of days or even weeks spent under tension in insecure areas
- The high temperature, which causes thirst
- The lack of fresh potable water ²

Many measures were taken by the command to meet this problem. In 1953, for example, troops were forbidden to visit bars, clubs, or messes during working hours, and the consumption of alcoholic beverages further aggravated the adverse effects of drinking in hot weather.

¹Report of the Chief Medical Officer, Far East.
²The toxicity of locally produced alcoholic beverages further
beverages prior to 1800 hours was also prohibited. Moreover, all bars, restaurants, and refreshment stands that were located in areas subject to military authority were forbidden to sell alcoholic beverages to troops prior to 1800 hours. The medical services also evacuated all alcoholics as undesirables when they would not respond to proper treatment in the country.

"Veneral infections were always of some importance in the Expeditionary Corps, but after a period of high incidence (1946-1948) the number of cases continued to decrease until the end of the war. Here again is a problem of basic instruction that needs attention by all commanders. Prophylactics are available for all the men, but it is in the villages, where most of the infections are caught, that the preventative measures are most often neglected. It must be admitted that disciplinary measures in many cases produce an effect contrary to that sought. The fact is that proper training of troops must include emphasis on the dangers of veneral disease and drunkenness, since one is most often related to the other."\(^1\)

In closing this summary of disease prevention, mention must be made of the problem of purifying water, since this was a problem of daily occurrence.\(^2\) "Drinking water was obtained by filtration followed by treatment with chlorides, or by purification in portable plants of several models (Degremont, Carbochlore). Powered diatomaceous earth filtration units of the Wallace and Tiernan type were also used in which the filtered water was then chemically treated. However, difficulties arose in the use of portable equipment because personnel were improperly trained. For example, unfiltered water would be treated chemically, or the chloride tablets would not be allowed to act for the prescribed period of time. In other cases, properly purified water was distributed without care, and would reach the troops in a contaminated state. There is much to be done in the way of education and training on this subject...."\(^1\)

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1 Report of the Chief Medical Officer, Far East.

2 The same problem would occur in a European war and a solution would have to be found.
XXXIII. PETROLEUM PRODUCTS SUPPLY SERVICE

The growth of the Expeditionary Corps and the organization of the Armed Forces of the Associated States was paralleled by a comparable increase in the requirements for petroleum products. In 1950 the total consumption of petroleum products was on the order of 131,000 m³. Three years later this had doubled to 260,000 m³. This further reached 356,000 m³ in 1954.

The petroleum products supply service, whose personnel never exceeded .005 of the total personnel strength of the Expeditionary Corps, was organized as follows:

o At the echelon of the Commander in Chief, a Directorate for Petroleum Products, Far East (DEEO), was created as a joint services organization charged with supplying the Army, Navy, and Air Forces of the Expeditionary Corps, and the Armed Forces of the Associated States.

o At the Territorial Command echelon, the lack of any joint headquarters resulted in the assignment of representatives from the central directorate, which the Army command often considered as coming under its orders. This led to some difficulties, particularly in connection with supplying Air Force units.

The extended nature of operations led to the establishment of several major fuel depots and large numbers of small depots, all more or less permanent. The so-called "operational" depots were an exception, and only had a limited supply capability (average of 10-20 m³ per day). The rigidity of this infrastructure was due primarily to the nature of the country: to the difficulty of finding dry areas in the deltas, and to the vital importance of roads in flooded areas or in less accessible zones.

The management of the depots in the larger cities such as Saigon and Pnom Penh was provided by commercial companies (Shell, SVOC, Caltex). All other installations were managed by fuel companies, which lacked
the mobility they have in Europe. They were, in fact, dispersed in numbers of fixed depots. Nevertheless, each of these companies maintained a reserve element called an "operational depot," which the command held ready to support combat operations. This organization, which evolved to meet the needs of the theater of operations, did not of itself yield any significant lessons. There were, however, a number of interesting lessons to be drawn from the experience of distributing fuel, and the measures needed to provide protection against sabotage.

**DISTRIBUTION OF POL**

All available means of transportation were used to deliver fuel to the depots: transportation by railroad along certain usable sections,\(^1\) by sea or inland waterway,\(^2\) and above all, by road. A large percentage of the fuel moved by road was carried in civilian vehicles rented by the directorate. It is unfortunate that the command failed to organize a pool of these civilian vehicles, because it often happened that there was a disparity between the requirements and the use made of commercial resources (the directorate on occasion lacked the trucks necessary to distribute fuel to Laos).

Operational exigencies also required the occasional use of air transport to move fuel to Laos and Tonkin despite the high cost and limited capacities of this means of transportation. It should be noted that the containers are seldom returned in such cases, and it might therefore be wiser to use light, low-cost cans whenever possible. The airdrop of fuel in the five-gallon cans often resulted in substantial losses (some 20 percent). For such purposes it might also be better to provide some equally strong but less expensive containers.\(^3\)

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\(^1\)Eventually 32 tank cars were made available.

\(^2\)Four flat-bottom barges of 200-ton capacity were built.

\(^3\)In this connection, note should be taken of the losses of containers through mishandling by the troop units: drums and cans stacked in the mud, caps improperly tightened or even missing, grease issued in food tins, wooden boxes, or even on simple pieces of paper. All of this required a periodic clearing of all containers from the depots. In view of the importance of petroleum products to military operations, there should be proper training given to drivers to ensure that they give some minimum care to what they carry, and to the containers that are used.
PROTECTION OF FUEL DEPOTS

The depots only rarely became involved in what might be called combat operations. The one at Phan Thiet was hit by mortars in 1954 and virtually wiped out, while the one at Hue was almost completely burned out in July 1954 by incendiary shells. In almost all other cases the attacks were made by commandos coming from outside the depot, and the results of these varied greatly depending upon the protection measures that had been taken. The attack on the depot at Vinh Long in 1954 was quickly checked by the prompt action of the military personnel in the depot, who had been alerted by the watchdog. At the depot of Do Son in 1953 only one 1,600 cu m storage tank was blown up while the other two tanks, shielded by a reinforced concrete wall, were able to resist the explosion of the charges of plastic. The civilian Shell depot and the military depot at Thuong Ly were partially destroyed in June 1953. The depot at Phu Ho and the one at Nha Trang were both completely destroyed, the first in 1952, and the other in January 1954.

These incidents had no impact on the conduct of operations, nor upon the supply plans of the directorate. A typical example was the case of the depot at Nha Trang, which was burned during the night of January 11-12, 1954, without causing any delay in the initiation of Operation ATLANTE, set for January 15.

In all these cases the enemy had succeeded in penetrating to the interior of the depot without having been discovered, after having crossed barbed wire obstacles and fencing of different types. Our countermeasures thus emphasized improved perimeter fencing and the shielding of storage tanks as follows:

- A depot was normally enclosed within a wall some 2.5 m high, on the top of which barbed wire was strung. The wall was

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1 Except for the depot at Danang, which was completely destroyed in 1952 by the civilian natives who worked in the depot.

2 The presence of numerous civilians, together with the frequent use of prisoners, certainly facilitated enemy operations (at the Hanoi depot, for example, the labor force included 100 to 200 prisoners).
painted white and was illuminated by one 300 W light every 15 m. An additional barbed wire obstacle was placed a few meters inside of the wall, and the whole was kept under observation from watchtowers.\footnote{1}

- Within the depot the storage facilities were separated from one another by metal fencing laid above a retaining wall, or placed a few meters on the outside of it.
- The large storage tanks were completely enclosed in a reinforced concrete wall\footnote{2} 0.6 m thick built within one or one and one-half meters of the tank.

For packaged products it was necessary to recall that fire generally spreads by the explosion and projection of the smaller containers up to distances of 50 m, while drums generally burn without being hurled about. Thus cans with fuel were stacked in masonry magazines with reinforced concrete overheads to prevent them from being projected outwards, and also to provide some protection against mortar fire. For fuel in drums it was generally enough to provide lateral protection by earthen or masonry walls.

Field fuel dumps naturally had to be established in areas considered to be relatively secure. The protection provided by nearby forces made it possible to eliminate the requirement for a surrounding wall, and a simple illuminated barbed wire fence was usually adequate. Dispersal of the fuel stocks and the use of separating earthen walls also helped reduce the effects of enemy artillery or mortar fires.

\footnote{1} Obviously a security force is necessary. This should be furnished by sector commands to man the watchtowers and to carry out outside patrolling. Internal guard is provided by depot personnel using watchdogs when possible.

\footnote{2} A wall 0.3 m thick has resisted the explosion of a charge of plastic without damage other than a superficial scaling, which resulted in loss of impermeability.
XXXIV. THE ORDNANCE CORPS

The Ordnance Corps began its operations with the original territorial organization using the simplest of working methods. Despite limited personnel, the Corps soon had to grow to provide a comprehensive yet flexible supporting system capable of meeting the increasing requirements of the Expeditionary Corps.

DEVELOPMENT OF THE CORPS

There were two important phases in the growth of the Corps:

The first was in 1949, when a unit assembly rebuilding company, an armored vehicle repair company, and two assembly lines were organized for rebuilding jeeps and GMC trucks.

The other was in 1952-1953, when the Army took over light observation aviation, and the existence of large numbers of river craft required the organization of specialized maintenance units.

The Corps was thus led to organize new and specialized units. These included principally:

- General reserve units for major work of an industrial nature requiring extensive facilities

1 The artillery shops of Hanoi, Haiphong, Hue, Saigon, etc.
2 The following table summarizes the growth of the Ordnance Corps:

<table>
<thead>
<tr>
<th></th>
<th>1948</th>
<th>1950</th>
<th>1953</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilities</td>
<td>10</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3rd echelon maintenance units</td>
<td>7</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>4th echelon maintenance units</td>
<td>0</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Miscellaneous units</td>
<td>2</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Number of vehicles maintained</td>
<td>17,000</td>
<td>60,000</td>
<td></td>
</tr>
<tr>
<td>Military personnel employed</td>
<td>3,100</td>
<td>4,497</td>
<td>7,800</td>
</tr>
<tr>
<td>Civilian personnel employed</td>
<td>4,750</td>
<td>4,836</td>
<td>8,100</td>
</tr>
</tbody>
</table>

3 Army aviation repair platoons and river craft repair company.
- Light mobile maintenance units for direct support of combat formations
- Territorial warehousing companies charged with supplying 3rd echelon maintenance units.\(^1\)

**ORGANIZATION**

"The Ordnance Corps should have a control element within each major unit. The recently established control elements at division level provide excellent service."\(^1\) The division level control elements were not, however, organized until after the war. The reason for this was that divisional size formations were few and were assembled only for short periods, with the results that no Ordnance Corps control elements were actually required. Within each territory there was an Ordnance Corps territorial directorate. At the theater level the whole of the system was under the chief ordnance officer, who also exercised direct control over general reserve ordnance units in Saigon, and the ordnance units at the Tonkin Operating Base in Haiphong. There was also a "technical ordnance inspectorate" which, for technical matters, came under the inspectorate in Paris, and a "technical ordnance section," which had the same role in the Far East of the comparable organization in Paris. These two agencies were directly subordinated to the Chief Ordnance Officer, Far East.

Among the problems relating to organization, those arising from the creation of the Armed Forces of the Associated States deserve special mention. "The receipt of ordnance matériel required by these armies, and the need to transfer complete units, increased considerably the already heavy tasks of the Ordnance Corps."\(^2\) It was also necessary to supply and maintain new combat formations. The principle of "cross servicing" allowed combat units to be supported by the nearest

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\(^1\)Chief Ordnance Officer, Far East.

\(^2\)Report of the Ordnance Corps, Far East.
ordnance facility without regard to nationality. However, our services were for a long time the only ones that could function effectively. Thus they had to provide the support for the Associated States' units until their own service support elements could take over.

PERSONNEL

The Indochina war was an infantry war. Under the circumstances it can be readily understood why the other arms and services complained that they were not getting their fair share of personnel. "From 1951 to 1953, the Ordnance Corps personnel represented 2.9 to 3.4 percent of the total personnel strength of the Army in the Far East. This compares unfavorably with the proportion normal to the U.S. Army, which reaches 9 percent. This also explains, in large part, why ordnance units had difficulties in carrying out their missions."

It should be admitted that civilian personnel, although less qualified, did raise these figures to 6 to 7 percent.

Another serious problem was that of a great shortage of specialists. In France 80 percent of the NCO's in ordnance units normally are specialists. In Indochina this figure was 40 percent. The best specialists were to be found in the Foreign Legion. "The Legion has excellent specialists. The high reenlistment rates favor the development of high quality technicians."

OPERATIONAL ACTIVITIES

3rd Echelon Maintenance

The inadequacy of Ordnance Corps resources caused delays in vehicle repair schedules, which in turn resulted in large backlogs of work at the 3rd and 4th echelon shops. "Two measures were taken to help relieve this difficulty:

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1Report of the Ordnance Corps, Far East. The native personnel had only about one-half of the effectiveness of comparable French personnel. Part of them were used for ordinary labor (coolie work and simpler tasks), while others were semiskilled and of varying quality. Electricians, painters, and harness makers were generally good. Tin-smiths, welders, and blacksmiths, on the other hand, were only fair.
The establishment of an intermediate maintenance category called '3rd echelon, long term'. A vehicle with this classification, when turned in by a using unit, was replaced with a maintenance float vehicle, as was the practice for 4th echelon maintenance. However, the vehicle would not then be forwarded to a 4th echelon shop. This helped reduce the load in the vehicle pools, and minimized inter-territorial movements. It also served to speed up the repair and return of the original vehicle to the using unit.

Some using units were authorized to carry out 3rd echelon repairs. This helped reduce the load at the 3rd echelon facilities of the Ordnance Corps.

Despite the foregoing, it was necessary to organize new units. The mobile maintenance units of the European divisional ordnance maintenance company type were not satisfactory because they were too heavy. In addition, "the breakdown of these formations into two similar elements to ensure continuity of support during major deployments did not meet the requirements of operations in Indochina. However, the organization of medium ordnance maintenance companies of the Foreign Legion in North Vietnam, of one heavy platoon (general maintenance support and supply), and of three light ordnance maintenance teams each capable of supporting a task force, proved highly effective."

4th and 5th Echelon Maintenance

Until 1951 such maintenance was rather poorly organized, and accomplished as follows:

- Some 4th and 5th echelon work on armored vehicles, and all work on major assemblies of U.S. general-purpose vehicles, was done in France.

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1Report, Ordnance Corps, Far East, March 1955.

227 units, mainly armor and motor transport, were authorized to perform 3rd echelon repairs.

3Chief Ordnance Officer, Far East.
The 1st Ordnance Repair Battalion was organized in Saigon to handle 4th and 5th echelon repairs. Beginning at that time the general reserve ordnance maintenance units were formed into battalions and companies with large personnel allowances. These were then able to carry on the necessary work on an assembly line basis as in an industrial establishment. The captains commanding the companies were also the technical supervisors of their facilities, which, in turn, would suggest that there were also competent shop foremen.

A major problem was that the output of the assembly lines was considerably reduced by lack of spare parts and supplies. In this connection, 1952 was the most critical year, as the following table reveals:

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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4th echelon</td>
<td>900</td>
<td>1,000</td>
<td>1,636</td>
<td>1,172</td>
<td>1,064</td>
<td>2,690</td>
<td>4,750</td>
</tr>
<tr>
<td>5th echelon</td>
<td>1,000</td>
<td>2,500</td>
<td>12,700</td>
<td>13,950</td>
<td>6,800</td>
<td>12,450</td>
<td>13,100</td>
</tr>
</tbody>
</table>

**ORDNANCE SUPPLY (LESS AMMUNITION)**

This was accomplished by the general reserve establishment at Saigon, which consisted of two warehousing companies. These received 105,000 tons of ordnance stores in 1953 and distributed 80,000 tons the same year. Major problems arose because of the great numbers of separate items, the multitude of supply sources, the long lead times involved, the magnitude of the storage requirements, the lack of covered storage areas, and the inadequacy of manpower. "It would have been necessary to await a cease-fire to provide the general reserve establishment with the resources it required in men as well as equipment."

With reference to the foregoing point concerning long lead times, "the 1953 supply requirements plan submitted in October 1952 was fulfilled...35 percent before October 1953, 30 percent between

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1 Equipment was French, American, British, and German, and came from a variety of places, including Japan, Australia, and India. Times of receipt were often unpredictable. This situation did improve greatly by the end of the war.
October and December 1953, and 35 percent in 1954. In other words, the majority of the requirements were met almost a year after the request had been forwarded. Moreover, certain important requirements (engines and vehicle assemblies for U.S. equipment) were only met two years after the supply requirements plan had been completed.\footnote{1}

Two distressing results of the above situation were that excessive stock levels had to be maintained in Indochina,\footnote{2} and when the requests were eventually filled, the supplies no longer corresponded to requirements. "The fundamental fault that existed all the way to 1954 was that the Ordnance Corps had no centralized stocks to supply the Expeditionary Corps, and was therefore dependent upon external commercial supply sources operating on the basis of contracts established each year in response to the annual supply requirements plan."\footnote{1}

**AMMUNITION SUPPLY**

"Stock levels for general reserve ammunition were established by the command. These were based on anticipated expenditure rates varying from 6 months to 12 months, depending upon the source and type of munitions involved."\footnote{1} General reserve ammunition stock levels went from 15,000 tons in 1951, to 37,000 tons in 1952, to 83,000 tons in 1954. During these same periods the monthly expenditures went from 1,500 to 6,000 tons. These figures reveal the changing nature of operations.

Ammunition resupply was handled primarily at the territorial level. This was made necessary because of distances involved, and because of the requirement to protect convoys. Accordingly, ammunition resupply was decentralized by the creation of major depots and secondary depots (sector level) to reduce the distances to the supported units. Several types of munitions were most often in short supply.

\footnote{1}Report, Ordnance Corps, Far East.
\footnote{2}In 1954 this included 96,000 tons distributed over 206,000 sq m of storage areas.
These included:
  o 7.62-mm cartridges
  o Concussion and fragmentation (D-37) grenades, MK II tear gas grenades
  o 60- and 81-mm illuminating mortar rounds, complete
  o Pyrotechnics of all types

It also became evident that there was an urgent need for suitable
waterproof packing and for "colonial type" depot facilities. "The
adverse effects of tropical climate on ammunition in storage are well
known. This is primarily due to high humidity and to temperature
changes that accelerate the deterioration of the propellants."\(^1\)

**MAINTENANCE PROBLEMS**

Motor Transport and Armored Vehicles

As the total vehicle population grew from 15,000 to 60,000 it did
become somewhat more homogeneous.\(^2\) On the other hand, "Insofar as age
was concerned, it can be said that they did not get any younger...only
a few service vehicles were developed. The terrain, climate, road
conditions, and liberal use of mines combined to provide unusually
difficult conditions for all vehicle operation. In the case of both
armored vehicles and regular road vehicles, the wear and tear on power
trains and suspensions was far above normal. This naturally had a
major impact on planning for resupply of spare parts, and above all
for spares for parts that are not normally replaced."\(^3\) As an example,
replacement of rear springs for the Renault Truck Model 4.220 at 3rd
echelon facilities reached a monthly rate of 115 left springs and 80
right springs, for a total of only 700 trucks.

River Craft

The river craft pool originally comprised a wide variety of boats
of marginal utility. By 1950 the different categories of craft had

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\(^1\)Report, Ordnance Corps, Far East.

\(^2\)British and German vehicles gradually disappeared. In 1954,
85 percent of the vehicles were of U.S. origin, while 15 percent were
French.

\(^3\)Report, Ordnance Corps, Far East. (This report includes details
of weaknesses encountered in all major items in the course of the war.)
been established to provide the range of types required for operations. These included:

- Sector boats. These were light and of several types: junks, sampans, small boats, and the "Mytho" type built by the Ordnance Corps (wooden hull with jeep engine).
- Transport river craft used by the Transportation Corps: LCM's carrying 60 men or two 15-ton tanks.
- Combat river craft manned by armored forces personnel: patrol boats of the FOM type.
- Harbor service craft used at bases: tugs, barges, LCT's.

Except for the "Mytho" boat, all others were contracted for in France and often had to be modified before being placed in service (armor, armament, etc.). The maintenance of this large number of boats was hampered by the dispersal of the using units, and by the rapid deterioration of hulls and underwater fittings exposed to the waters of the deltas. This support was provided by:

- River craft maintenance platoons within the medium ordnance maintenance companies
- One river craft repair company in the South
- An Army-Navy maintenance pool for some types of craft
- Civilian concerns, for the larger craft

Army Aviation

The Piper Cubs that lacked power, and the Morane 500's that were too heavy and slow, were replaced in 1954 by the Cessna L-19's, which were well suited to their missions. Until January 1, 1953, logistic support was provided entirely by the Air Force. The Army then gradually assumed this responsibility, and by the time the L-19's arrived, the Army had full logistic control. Maintenance was handled by the Army Aviation Repair Platoon.²

¹In 1949 there were 110 river craft of all types. In 1952 there were 463 craft, and in 1954 there were 1,561, including the "Mytho" boats.
²There was one platoon at Cat Bi (Haiphong), one at Danang, and one at Saigon.
Weapons and Optical Instruments

The diversity of types and models of weapons and optical instruments was very high. For example:

- There were 36 different models of automatic pistols for the 28,000 pistols in service.
- There were 33 different types of rifles and carbines for 400,000 in service.
- There were 17 different types of light machine guns for 14,000 in service.
- There were 16 different types of mortars for 3,800 in service.

Under these circumstances, maintenance and repair were generally accomplished by "handicraft" methods. "It is absolutely necessary to organize such work on an assembly line basis comparable to what is done for vehicle repair."\(^1\) Aside from presuming that this can be made possible by some improved degree of standardization, it also supposes that "the routine conservative attitudes of some officers and NCO's specializing in weapons repair can be overcome.

"The annual supply requirements plan, based upon estimates of requirements extending over 16 months, resulted in the stockage of numbers of slow-moving items. This long supply interval could have been substantially reduced if a proper shipping organization had been created to use modern, high speed transportation."\(^1\) Most of the problems were fundamentally due to a shortage of resources of all types. This in turn resulted in the improper use of some items of equipment.

"A typical example is that of the 2.36-in. rocket launcher. This is an antitank weapon and was, moreover, already obsolete. Nevertheless, it was frequently used in infantry combat, despite the fact that it has a shaped charge projectile."\(^2\) It would appear

\(^1\) Report, Ordnance Corps, Far East.
\(^2\) Expenditure rates for this type of munition reached 10,000 rounds per month.
that the sole reason it was so used was that it was light. Under the circumstances, the development of antipersonnel munitions for this weapon should certainly have been possible, even as other comparable developments should have been possible. Yet, "it can be said that, in general, no substantial effort was made to develop equipment to meet the particular needs of the Indochina theater of operations."

EQUIPMENT MODIFICATIONS

Despite laudable effort, equipment and armament were not always suited to the operations and the terrain because "a number of factors affected their modification, the major one being the type and quantity of supplies received from overseas." In addition, "between the time that a need was expressed in specific terms by a combat unit, and the time that the required equipment could be modified or built, there was a considerable delay that in some cases extended to two years. Under these circumstances, by the time the item was ready for delivery, the combat conditions had changed to the point where it was no longer useful."

The foregoing explains why some officers complained that the equipment was not well suited to Indochina, and why so many units tried to tinker with or to otherwise modify all sorts of equipment. Yet, despite many difficulties, the Ordnance Corps tried to please the units either by building the required items locally, or by undertaking the necessary modifications.

Locally manufactured items were generally few and simple, but they were of considerable use. The more important of these included:

- Double or quadruple rifle grenade launchers that were highly appreciated. "These were made by fitting the receiver of a standard M-1936 rifle with an extension carrying either two or four short sections of barrel of the same type rifle." This short-range defensive weapon was used mainly in posts and occasionally on some armored vehicles.

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1Report, Ordnance Corps, Far East.
2Notably command vehicles, half-tracks, and radio vehicles.
The life jacket type BIB 54, which provided flotation for a soldier with his individual equipment. Three thousand of these were manufactured.

The "Mytho" boat built of wood, with a jeep engine. Several hundred were built and all units that used them praised their simplicity and utility.

The modification of equipment was frequently undertaken to serve a variety of purposes: the protection of personnel in vehicles, the ability to put close defense weapons into action more quickly, the modification of some items of equipment for use in fortified positions, etc.

To protect personnel, different types of armor were tried on wheeled vehicles and on amphibian vehicles. Vehicle floorboards were strengthened, antimine shielding was laid, and antimine overheads were added.

To permit weapons to be put into action more quickly, weapon mounts were provided for most general-purpose vehicles and river patrol boats. "A considerable number of devices were developed that often required long and detailed studies...these, seen in the perspective of time, now appear to have been rather archaic. What should have been undertaken was a comprehensive program based upon reasonable information carried out by the command..."  

Insofar as modifying equipment for use in fortified positions, this involved a great deal of detailed work on wheeled vehicles, trailers, maintenance vehicles, etc., including transforming some wheeled vehicles to run on tracks. Despite the magnitude of this

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1 The weights proved to be excessive except for the GMC truck equipped with the 40-mm AAA gun.

2 The LVT is the only such vehicle that can carry some light additional armor on its sides, and this adversely affects its performance afloat.

3 The shielding of vehicle floors against mines lost its value toward the end of the war with the appearance of more powerful mines.

4 Report, Ordnance Corps, Far East.
effort, "...it amounted to a little more than deceptive tinkering. The lesson to be learned from this rapid review is that a campaign of this nature would have benefited greatly had it been studied and carefully prepared. This would have made it possible to perfect and arrange for the manufacture, by modern industrial methods, of the equipment necessary for the implementation of the tasks assigned to the troops."\(^1\)

There was therefore a problem of resources, and there was also a problem of organization.

\(^1\)Report, Ordnance Corps, Far East.
XXXV. RESEARCH AND DEVELOPMENT PROBLEMS

Providing the types of arms and equipment best suited to a particular campaign becomes ever more difficult as these multiply in numbers and complexity. However, there are permanent organizations with large staffs in Paris responsible for long-range research and development. It would therefore appear that these could easily resolve the problems posed by a limited campaign such as the Indochina War. Nevertheless, the using units, services, and staffs within the Expeditionary Corps all commented upon the fact that the equipment provided was less than satisfactory for the combat conditions encountered. The reasons for this are worthy of attention.

Before looking into the research and development organization and its operations to determine where improvements could have been made, it may be useful to emphasize once again a fundamental point: the long time required to research, develop, and put into full production any new item of equipment. This imposes upon military development a degree of caution, since, once it is under way, it is difficult to shift into reverse without serious and long-lasting consequences. This is undoubtedly the reason why certain specialized items of equipment were not developed to meet the needs of a war whose intensity and duration were surprising—distressingly so. Be this as it may, the fact remains that a continuing effort was made, without success, to create an effective research and development organization. There is, in this, something to be learned...even if it be only negative.

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1 Terrain, climate, enemy, type of operations, plans of friendly forces, etc., are the main factors that determine suitability of equipment.

2 The Army has a command element, a research and manufacturing element (Directorate of Armaments Research and Manufacturing), and a testing element that also handles technical publications (the Technical Section of the Army). Comparable agencies exist in the Navy and Air Force.

3 Once a requirement has been established in specific terms, it takes several years to develop the prototype of a relatively uncomplicated item under normal procedures. It then takes two years of testing and preparation for production. These times are just about the minimum and whenever they have been shortened the results have been most unsatisfactory.
The need for a research and development organization was appreciated very early in Indochina. However, the diversity and magnitude of the tasks that had to be undertaken required either significant resources (which were not available), or a very close liaison and careful coordination of work with the central organizations in Paris.

In 1948 a Research and Development Bureau was organized within the Directorate of the Ordnance Corps in Saigon. This agency was charged with:

- Evaluating proposals for new items of equipment
- Monitoring manufacturing and developmental activities
- Directing tests of ordnance equipment
- Maintaining close liaisons with appropriate agencies in France

All of this was to be accomplished with a total personnel strength of 12 officers and men.

In 1949, the aforementioned organization became the Ordnance Research and Development Section and its missions were slightly modified. It no longer had to monitor manufacturing and development activities, but it had "to prepare technical publications." Later, in 1950, the first and third tasks listed under the 1948 organization above were combined and redefined as follows: "Research, test, and recommend production of new equipment (and major modifications of existing items) required for the Indochina theater when the work can be accomplished with local resources."

Despite these changes, the defects of this organization soon became apparent. "The section is directly subordinated to the Chief Ordnance Officer, Far East. It cannot therefore enjoy free access to the headquarters general staff." Moreover, its responsibilities for

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1. There were also some mixed agencies (engineer, signals, airborne, psychological warfare) that carried on their own R&D activities. None of the results was centralized or coordinated (Note, February 1954).

exceed those of any one research and development agency in Paris. Indeed, the responsibilities of the Saigon section extend into the domain of several of the organizations in France...."

In summary, there was a weakness in the command arrangements, an excessively broad range of responsibilities, and a lack of coordination with the Paris agencies. Lastly, the fact that the section belonged to the Ordnance Corps served as an argument for continuing the existence of separate research agencies serving other arms.

In 1952 the situation was improved by the promulgation of a general directive that stated, in part: "...all research and development proposals will be forwarded to the G-3 who will prescribe the testing program, the research to be undertaken for the modification of new equipment, and any other research programs.... He will establish the necessary priorities.... He will also be responsible for forwarding to France any proposal for the development of new equipment required to meet new requirements."¹

The foregoing directive did not, however, cause any changes in the then-current organizations.

There is no question that distance made liaison between Paris and Saigon difficult. Both Paris and Saigon commented on this, and on the consequent lack of coordination. There were numerous recommendations made to rectify this difficulty, but as long as two ministries (France Overseas and War) were involved, the gap could not be bridged. Finally, after January 1, 1954, when support for the Indochina War came under the Minister of National Defense instead of the Minister for the Associated States, the situation began to improve. Unfortunately this occurred too late to have any significant effect.⁶

Efforts were also made to improve liaison downwards. In 1954 the Commander in Chief decided to create a research and development

¹Directive on R&D responsibilities of the G-3.
organization on the premise that "new, simple, and easily exploitable ideas never seem to surface because there is no one to encourage and harvest them." As a part of this innovation each area and unit headquarters was directed to designate an officer "...as 'technical officer' who will be the point of contact with the R&D staff element within the G-3 section of the High Command headquarters. 1 The officer so designated need not have any formal technical qualifications. The main thing is that he should be interested in such problems and, what is most essential, that he be properly motivated...." 2

The war ended before all of these efforts could result in a comprehensive organization extending throughout the chain of command. The ideas that follow, derived from the last studies to be made on the subject, reveal the trend of events that were in the course of being implemented when the disbandment of the Expeditionary Corps began:

- In each headquarters a "technical officer" (who may fulfill this task as an additional duty) is the point of contact with the R&D staff element ("T" staff) at the headquarters of the Commander in Chief.
- The "T" staff element should preferably be assigned to the Plans and Programs Sections of the G-3 and G-4 offices, whose activities relate mainly to the solution of urgent problems, and who have differing views of technical matters. The "T" staff element should correspond in general to Army Headquarters Research and Development Office in Paris, whose overall concerns extend to research, testing, and manufacturing at the national defense level.
- A "Research and Development Section, Army Forces, Far East" would constitute the executive agency for the general staff ("T" staff element). This should include representation

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1 Joint Forces and Army Forces Headquarters (EMIFT).
from all technical fields (engineers, signal communications, airborne, etc.).

1 Its terms of reference would include: to study and recommend modifications of equipment to meet local requirements; to develop specifications for new equipment; to receive all equipment not coming from France; and to prepare technical bulletins (on friendly and enemy armament) in order to provide commanders with the results of studies and tests (new uses of known procedures or the use of new procedures). This agency should also be the overseas extension of the Technical Section of the Army in Paris, which would be responsible for major testing programs, and with which the agency would maintain direct liaison.

The Commander in Chief would have a technical advisor as part of his personal staff, whose services would be most useful in the light of the growing importance of the personal staff in command matters. In some cases this function could be assigned to one of the deputies of the Chief of Staff.

This "R&D chain" need not require any excessive number of personnel, since many of the technical functions involved can be combined with other duties. The important thing is that there should exist at each separate echelon a responsible individual, "interested and properly motivated."

With reference to this whole issue, it is evident that what can be done overseas will generally be confined to relatively minor modifications of equipment, to tactical testing, and to specialized studies. The basic task, in essence, is to understand and convey, in proper terms, the requirements of the combatant to the end that research may be suitably oriented. Only the larger agencies have the technical skills and the means required to undertake the research, development, and manufacture of new items. Thus the liaison between the overseas agencies and those in Paris must be extremely close, and personal contacts need be encouraged to enlarge upon official relations.

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1 No other arm would have a separate R&D staff.
It may appear unnecessary to dwell upon a problem of organization that will undoubtedly never reappear in the same form. Yet,

- It serves to confirm a number of points mentioned in many of the preceding chapters, particularly the serious disadvantages accruing from: the distance of the theater of operations and the consequent lack of liaison; the attitude of the combat forces that France was "uninterested in the war," and the inadequacy of the resources provided to Indochina; the compartmentation of the various ministries, the annual budget cycles, the self-interest of the different arms, the dispersal of effort, etc.

- It invites attention to a current concern in operations, that of research and development. Our organizational structure was not well suited to resolving the multiplicity of problems that arose, and the efforts remained dispersed. Some of these efforts could have even been nullified by the lack of understanding at any one echelon.

In view of the foregoing, it appeared desirable to summarize, as an example, what was accomplished to create in the Far East a research and development organization that, although still far from satisfactory at the end of the war, was, nevertheless, in the course of being improved.

Translator's Note

French forces in overseas theaters, including that of Indochina, were under the Ministry of France Overseas for operational employment. The Ministry of War was charged only with the organization, training, and support of overseas forces. Later, when the Ministry for the Associated States was established, it assumed the functions previously discharged by the Ministry of France Overseas for the Indochina theater of operations.